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BUCKINGHAM PALACE

To All Divisions of
The Canadian Medical Association:

It is a matter of regret to me that I am unable to carry out the duty of the President of the Canadian Medical Association in visiting each of the ten provincial Divisions at their annual meetings. However, I am sure that you will understand that other commitments make this impossible and that my absence is not due to any lack of interest in the affairs of the Association. I commend to you as my personal representative, my Canadian Deputy, Dr. E. Kirk Lyon, who is carrying out the many duties and obligations of the office.

It was also a disappointment to me that I was unable to be present at the joint annual meeting of the British and Canadian Medical Associations in Edinburgh last year. Such gatherings cannot fail to strengthen the ties that bind us together in the Commonwealth and the warm friendship generated there more than justified all the effort expended in arranging this most successful joint meeting.

If I could not be in Edinburgh, at least I had the great pleasure to be able to attend the Annual General Meeting in Toronto and be installed as the President of our Association. You will recall that in my Presidential Address I drew attention to the problems of sub-health. I believe that physical fitness is fundamental to positive good health and I suggested to the members of the Canadian Medical Association that they had some responsibility in this matter. I hope that much progress has already been made and I shall look forward to hearing about the results of your efforts in due course.

The Queen's visit to Canada had many aspects, but perhaps one of the most significant was a reminder to Canada that she belongs to a wider brotherhood of nations. The Canadian Medical Association, with its ten federated but autonomous Divisions, is not unlike the Commonwealth. Both have a variety of forces which tend to divide them. Both are, however, united by a common purpose. The purpose of the Canadian Medical Association is to provide for all of our fellow citizens the best in health services which the present state of our knowledge can provide. That is quite an undertaking and it means two things: the kindly personal interest which good doctors have always shown towards their patients, and an alertness to the new developments in scientific medicine and to the sociological developments of our age.

I send to the members of all the Divisions encouragement in your work and the assurance that the Canadian Medical Association will continue to take good care of your interests.

PRESIDENT,
THE CANADIAN MEDICAL ASSOCIATION,
1959-1960

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THE MEDICAL SUNDIAL*

E. KIRK LYON, M.B., F.A.C.S., *Leamington, Ont.*

A STUDENT of medical history would arrive at the conclusion that for the past forty years the shadow on the medical sundial has been stationary at ten minutes to twelve. Each succeeding decade has brought forth Presidents who warned all and sundry that the hour of government intervention in medical practice was imminent. The discourse thereafter varied somewhat.

There were those who exhorted the profession to don battle dress and sally forth to the fray. There were others who advocated that an effort be made to guide the inevitable steps into familiar pathways, while still others seemed so overcome by fear or frustration that a great silence was thought appropriate.

In 1959 we witnessed the intervention of government in the field of hospitalization and the realm of medical practice of those closely associated with hospitals. What effect has this had on the shadow of the medical sundial? Has it pushed the shadow away from or closer to the zero hour of twelve o'clock?

Ten years ago the Council of the Canadian Medical Association, meeting in Saskatchewan, enunciated certain principles which it believed should guide our Association in dealing with problems facing us in those days. We expressed our belief in, among other things, the prepayment method of defraying the cost of illness. Since then a great deal of time and effort has been expended in implementing this principle on which we staked our future.

Although our experience in this field was limited at that time, we had made a start and had insured in medically sponsored plans about 8% of the population of Canada. The commercial insurance carriers had also insured a little over 8% of the population, so that altogether about 16% of the Canadian people had seen fit to protect themselves against the cost of illness by the prepayment method.

In the intervening years this type of insurance coverage has gained in popularity. We find today that our prepaid plans have now insured approximately 24% of the population, and, peculiarly, the commercial carriers have kept pace with us and have increased their enrolment to 24% of the population, so that we now have in Canada 48% of our total population covered by some type of health insurance. Stated in other words, we had covered in 1949, 2.2 million people, and in 1959, we had 8.2 million enrolled.

Although I have no figures for the commercial companies I think it is worthy of note that in 1959 our own medically sponsored or approved plans will have paid out to doctors for services rendered an estimated 70 million dollars.

These figures would indicate that the principle of prepaying the cost of illness has slowly but surely gained in popularity during the past decade. This principle has become particularly popular in the field of labour negotiations, and it is rare today to find a contract between labour and management which does not contain a "health benefit" clause. I come from a highly industrialized area where about 80% of the population is covered by our medically sponsored service plan, and I can categorically state that it has come to be considered as an essential part of living in that area by both the public and profession alike.

In spite of this increase in popularity of the medically sponsored health insurance program in Canada, it has had a cool reception from some of the members of the medical profession. In fact, open hostility has at times been evident. One hears all too frequently that the medical profession should get out of the business of health insurance, that we should scrap the work of the past ten years, and leave the whole problem to the commercial insurance carriers, or to the government; that we as a profession should hold ourselves aloof from all financial arrangements for the payment of the cost of illness except that which may be arranged

Ashley & Crippen, Toronto

E. Kirk Lyon, M.B., F.A.C.S.

Dr. E. Kirk Lyon culminated his many years of executive and committee duties in the Canadian Medical Association during the term 1959-60 when he served as Deputy to the President, H.R.H. The Prince Philip, Duke of Edinburgh. Dr. Lyon continues as a member of the General Council and Executive. In his own community he is Chief of the Surgical Department, Leamington District Memorial Hospital. He is a Fellow of the American College of Surgeons, a Certificant in General Surgery of the Royal College of Surgeons of Canada, and a member of the Academy of Surgery, Detroit, Mich.

*An address by the Deputy to the President of the Canadian Medical Association, 1959-1960.

directly between the doctor and his patient; that we should in no way deal with "third parties".

To those members of our profession who believe this, I can only say that I know of no surer way of encouraging government intervention than to do as they suggest. Labour across this country has been clamouring for years for some type of government health insurance, and unless we as a profession can lead the way and supply the need, our politicians will be forced sooner or later to heed the demands of their constituents and supply for the Canadian people that which we deny them.

I believe we must explore further the field of co-operation between our own plans and the commercial insurance carriers. The interests of insurance companies parallel our own – the prepayment of medical care for the Canadian people.

I therefore submit that the medical profession must in self-defence support this program and do it honestly. These are our plans and should not be considered "third parties".

I am not so smug as to believe that our present system is perfect–far from it. There are many problems which require our constant study and improvement. We have not as yet been able to offer to all the Canadian people the benefits of prepaid medical care, but signs on the horizon are encouraging, with many of our plans now offering individual coverage.

Many of the concepts which we have held dear in the past are under attack, and it behooves us from time to time to examine their validity. We have heard much about the "fee-for-service principle". I am sure all of you within hearing would be horrified if I suggested this be abandoned. It is, however, open to question whether in all circumstances the fee-for-service principle can be defended as the *only* way we, as a profession, can be remunerated for our services. As an illustration let me remind you that under a fee-for-service principle, when related to our medical service plans where a standard fee is rigidly maintained, the doctor who is physically capable of performing the greatest *number* of services and not necessarily the *best* services is the one whose remuneration becomes the greatest. This system could carry with it *quantity* medical care and fail to remunerate adequately the careful, skilful practitioner rendering high-quality medical service to his patients.

Furthermore, it is highly doubtful that many of the new and complicated procedures, which require the team work of many highly trained individuals, can ever be paid for in any way other than on a unit basis.

In the future I would visualize a change in the system for remunerating our teachers of medicine. It is becoming increasingly difficult for our clinicians to devote half their time to teaching and make a decent living on a fee-for-service basis during the remainder of the day.

The fact that approximately 20-25% of the medical population of Canada today choose to earn their livelihood by other than a fee-for-service basis further strengthens the view that this principle, so long defended by our profession, may require further study in the future.

One could go on discussing such other things as doctor-patient relationship, freedom of choice, free enterprise–all principles on which we have built our heritage in Canadian medicine, and on which we must depend until something better is evolved. My only plea is that we keep an open and fertile mind; that we constantly study and improve, where improvement is indicated, in order that we may at all times work towards the goal which should always be before us–the provision of the best medical care for the Canadian people.

I would suggest to those of our profession charged with the operation of our prepaid medical care plans that they keep constantly in mind the high ideals which motivated those who initiated these plans. They must remember, when they are producing rules and regulations for the conduct of our affairs, that one of the prime objects of setting up prepaid medical care plans was to bring doctor and patient together so that we, as doctors, could not only better serve our patients but also obviate, if possible, encroachment of a government bureaucracy upon the practice of medicine. Let us not seek to avoid government bureaucracy by creating one of our own. The members of our profession who undertake these tasks must always be in the unenviable yet responsible position of serving well two masters, the subscriber who pays the bill and the doctor who renders the service. They must not allow our plans to become tight little insurance companies–money changers in the temple of Æsculapius!

A decade ago we thought that governments were deeply involved financially in health measures in our country when, in 1949, the federal and provincial governments of Canada spent 174 million dollars on health measures. In 1959 we find these same governments spending 552 million dollars in the health field, about three times what was spent ten years ago. (It is true that we must relate this to the national income, which has doubled in this same ten-year period.) He must be blind indeed who cannot see the trend in this regard which is occurring in Canada. Had a speaker in 1949 predicted this phenomenal rise in government expenditures in the health field, he would probably have been branded as a false prophet. However, I believe that these expenditures will increase still further as time goes on and the public demand that more and more of the benefits of health services be brought closer to their door by government assistance.

Although government in itself can never render the necessary medical care to the Canadian people independent of the co-operation of the medical profession, I am just as certain that the medical profession cannot render the necessary care without a large measure of government support.

Among our ranks there is some evidence of fear of government intervention. When we visited the World Medical Association in 1955 and the British Commonwealth Medical Conference in 1959, I was impressed, as was our General Secretary, by the fear and distrust of their governments expressed by many national associations. Fortunately to date we in Canada have not experienced the direct intervention of government in the personal liberty of the profession found in so many other countries. I would like to believe that this is due to the fact that the medical profession and government have been willing to sit down together and discuss medical economic problems. The medical profession must not dig in its heels but continue to stand ready to consider all proposals genuinely designed to improve the health of the Canadian people. Our particular role should be to guide and direct government to the end that the best service we can provide is rendered to the public and, above all else, to preserve the dignity of our profession. I believe in the over-all picture that what is good for the people of Canada is good for the medical profession.

The development of universal hospital care insurance is so fresh in the minds of most of us that we as yet only dimly comprehend its obvious merits and possible complications. It is true that the hospital insurance plan has encroached to some mild degree on the private practice of medicine but we must, in all honesty, admit that government has interfered as little as possible with the private practitioner.

With the great upsurge of hospital construction which is taking place in Canada and the improvement of hospitals with government assistance, with the improvement in hospital staff organization directed by the Canadian Council on Hospital Accreditation, we are bringing to the community hospital a higher standard of hospital and medical care than ever before enjoyed in this country. While the improved community hospital can never be expected to bring to the small community all the benefits of our science, procedures which a decade ago were considered impossible are now commonplace and done with safety.

We must, however, realize that the passage of Bill 320 of the House of Commons of Canada with one stroke of the pen radically changed the business practices of hospitals across Canada. The hopitals of our country were at least partially prepared through their experience with Blue Cross and have experienced a minimum of disruption.

We have seen this year, for the first time in Canada, a political party in one of our provinces adopt as the main plank in their political platform a compulsory medical care insurance program for the people of their province. The fact that this political party has been returned to power, and is thereby committed to introduce a plan of medical care insurance, has given the medical profession of Canada grave concern. Signs on the horizon tell us that in at least one other province in Canada this same problem will become, in the very near future, a matter for the electorate. I ask you—are we prepared for these developments?

There was a time when we could hide behind the possible cost of such a program, but the present indications are that governments at all levels are becoming less fiscally responsible and the lack of money does not always act as a deterrent.

These increases in government spending in the health field may be considered by some as evidence of "creeping socialism" in our country, but I would remind you again that the improvements we have experienced have been effected in a very large measure by co-operation between government and the organized medical profession.

I cannot emphasize too strongly that we as doctors must put forth some effort ourselves and not leave everything to government. Remember: "Any government big enough to give you everything you want is big enough to take away everything you have."

There were in Canada in 1949 about 14,000 doctors. Today, our medical population stands at about 19,000. This increase has been brought about by graduation of medical students trained in Canadian medical schools and augmented by physicians educated abroad. In 1949 we had ten medical schools in Canada; today we have twelve medical schools. I would call to your attention that the establishment of these new medical schools and the maintenance and improvement of the existing schools entail a great expenditure of public funds.

In Canada last year approximately 830 medical students were graduated from our medical schools. I am reliably informed that 1013 doctors last year presented themselves to the Royal College of Physicians and Surgeons of Canada for examinations of specialties in one field or another. One would query the advisability of training this large number of specialists and one would query also the number of these specialists who, of economic necessity, would find themselves doing general practice. Although I have the greatest sympathy and admiration for those dedicated doctors who devote a large part of their time to the training of our medical population, it would seem that some further assessment of this particular problem is urgently required. This study might determine the proportionate number of specialists to general practitioners required to best serve the Canadian people.

The rapid increase in medical groups and clinics composed largely of specialists would lead one to believe that perhaps in the future the pattern of practice may be radically changed and the solo practitioner will become the exception rather than the rule.

No matter what changes may take place in the training program on both the undergraduate and the graduate level, the Canadian medical profession must be adamant that nothing be allowed to

hamper the clinical instruction of our students, and provision of clinical material must be assured. This is already presenting some problems in those provinces where universal hospital care is in force.

Now may I, as one whose service is becoming long in the practice of medicine and in the council of organized medicine, be permitted to pontificate a little.

One does not arrive at the position which I now have the honour to occupy without having some experience in the practice of medicine. It has, over the years, been a sobering experience and one which causes one to reflect on the long-term developments rather than on those things which seem expedient at the moment.

There are in our midst what are known as "the angry young men" of medicine. These young men are not peculiar to our profession but are found in all walks of life. Who are these angry young men of medicine? As the name implies, they are men who are young in their professional careers. They have gained their education and conducted their practice in the midst of a buoyant economy. In many cases they have known neither want nor privation. On the face of it one would think that of all people they have the least licence to be angry; rather, one would expect them to be smug, self-complacent and satisfied. I gain the impression, however, that they are angry because they realize that unless something is done, the natural cycle of events will change, perhaps radically, conditions as they now exist. It is as if they see in the distance something ominous that will destroy the very foundations of the things they have learned to cherish.

We who are older see the same signs but we have lived longer, we have practised under other conditions, and over the years we have had cause to wonder a little at the dogmatisms of oft-repeated beliefs. We are not as sure of some things as we were in our younger days. The black and white of youth has mellowed into a larger area of grey with a little of the distinctive colour at the edges. We realize even without thinking about it that changes have come so gradually that they have disturbed us but little, which suits our desire for peace. Things are the way we have fashioned them, and even if we have not studied all the changes that have occurred, we have not the energy to go through the strenuous process of evolving new practices.

The "angry young men", on the other hand, have had nothing to do with the formation of the present policy. They examine it, not in the light of conditions which gave it birth, but only in the light of the present and their fears of the future. On this basis they find it inadequate and in saying so, sometimes before they have a suitable replacement, they are labelled "the angry young men".

Several years ago I could have identified myself with these angry young men, and I am not sure that those of us who had a part in enunciating our principles on health insurance ten years ago were not considered the "angry young men" of our day. So I say to these young men, continue your questioning of the problems of medicine, think about them, discuss them among yourselves, and with the older members of the profession; give the problems your careful scrutiny and, when you are sure you are right, have the courage to change those things which require change. Such actions constitute progress. Yours is a grave responsibility!

Now, what is our future? I am by nature an optimist. I have supreme faith in the days ahead. I have no patience with those faint hearts who would direct their sons and daughters to careers that are socially less useful and personally less rewarding than that which you and I have enjoyed as members of this, the greatest profession of all.

Ten years ago, when I had the honour to be president of my own Division, I stated in my presidential address certain beliefs which have remained unshaken. I can do no better than repeat them to you today.

"We must continue our search for better scientific methods."

"We must keep our professional and personal standards high."

"We must continue our study of medical economic problems."

"We must adopt a positive attitude."

"We must lead the way."

It is my belief that in this rapidly changing world the position which our profession has made for itself in society is not being challenged. The medical profession is assured of its place in the firmament. The challenge to us is to adapt our thinking to changing conditions so that we may help lead the Canadian people to that better and fuller life, the basis of which is fitness in mind and body.

The shadow on the medical sundial is at twelve o'clock!

106 Talbot Street,
Leamington, Ont.

MEDICINE AND THE STATE

It is a great misfortune that some proponents of State-sponsored medical schemes seem to feel that they will gain their point by attacking the profession of medicine. The doctors are represented as "money grubbers", denying medical care to those unable to pay for it, growing fat on the misfortunes of others. Certainly all this sounds strange in a land which enjoys one of the highest standards of medical care in the world—where no one need lack for medical care who needs it, or who *thinks* he needs it, regardless of his ability to pay. Surely the least likely way to gain the sympathy and co-operation of the profession is to sneer at its ideals and besmirch its reputation. The doctor cannot be blamed under these circumstances if he begins his consideration of this problem with the firm conviction that the proponents of State medical schemes are not truly interested in the improvement of medical care, but only in selling more newspapers or buying more votes.—Editorial, *Canad. Anæsth. Soc. J.*, 7: 233, 1960.

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EMPHYSEMA AND ITS TREATMENT*

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CHRONIC DIFFUSE obstructive emphysema has been defined as a pathological state of the lungs characterized by widespread coarse air spaces of markedly variable size, subpleural bullæ, and a tendency of the lungs to remain inflated after the chest is opened. Microscopically the enlarged spaces are seen to be the result of attenuation and loss of pulmonary septal tissue.

In the clinical diagnosis of emphysema, the only essential symptom is dyspnœa. It is worth while to evaluate carefully the patient's exercise tolerance. Where significant emphysema is present, there is considerable limitation of activity even when the patient says he is having a "good" day. If there are occasions when exercise tolerance is nearly normal, even if this occurs rarely, then much of the patient's trouble is usually due to bronchospasm and not emphysema. Many abnormal physical signs have been described. Clubbing of the fingers, if present at all, is usually slight. If clubbing is marked, it is wise to look for some cause other than emphysema—for example, bronchiectasis or carcinoma. Signs of little diagnostic value are barrel chest, wide sub-costal angle and hyperresonance on percussion. Cardiac dullness is always absent, but this may occur in persons without much emphysema. If cardiac dullness is present, emphysema is unlikely. The signs of most value are diminished chest expansion, especially if there is indrawing of the lower ribs on full inspiration, a low inferior right lung border and diminished breath sounds and cardiac sounds in spite of a thin chest wall. The position of the inferior right lung border in the midclavicular line is determined with the patient in the semirecumbent or recumbent position. Moderately heavy percussion is used down the right midclavicular line with the pleximeter finger placed parallel to the ribs. A change from resonance to definite dullness indicates the level of the inferior right lung border. It should be emphasized that moderately heavy percussion be used and the level recorded is where definite, almost flat, dullness occurs. If light percussion is used, the dome of the diaphragm can be detected, and this is higher than the right lung border. The inferior right lung border is the very lowest border of the lung. The inferior right lung border has been carefully recorded in 192 subjects (Fig. 1).[1] In normal subjects it is always at or above the sixth interspace. In patients with pulmonary disease other than emphysema, it is nearly always in the normal range. In patients with emphysema it is nearly always below the sixth interspace. In only 9 of 83 patients with emphysema was the inferior right lung border normal. Most of these exceptions had only slight emphysema. The sign is of much less value when there is significant diffuse pulmonary fibrosis in addition to the emphysema, as the inferior right lung border is frequently normal.

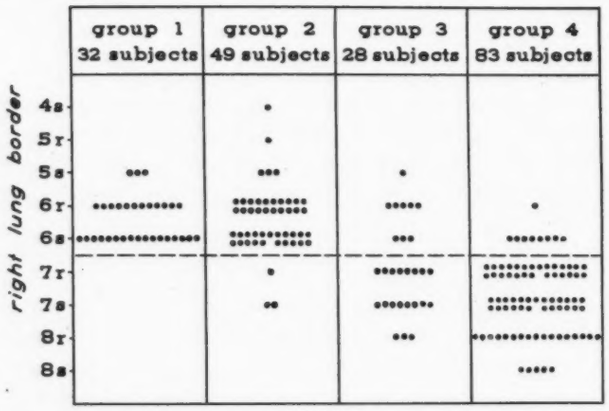

Fig. 1.—The position of the inferior right lung border, determined by percussion, in the mid-clavicular line. Broken line attempts to separate subjects with emphysema (below the line) from those without emphysema (above the line).
Group 1.—Normal.
Group 2.—Pulmonary disease other than emphysema.
Group 3.—Emphysema and pulmonary fibrosis.
Group 4.—Emphysema alone.
r = rib; s = interspace

The bedside diagnosis of significant emphysema depends upon decreased chest movement, absent cardiac dullness, an inferior right lung border in the midclavicular line below the sixth interspace, and diminished heart and breath sounds.

Radiographs are unreliable in the diagnosis of emphysema. It has been shown that even expert observers will frequently diagnose a single full inspiration chest radiograph of a normal subject as showing emphysema, and conversely the chest radiographs of patients with moderately advanced emphysema are often read as normal.[2] To diagnose emphysema accurately, full inspiration and full expiration chest radiographs are necessary. Recently it has been suggested that emphysema may be diagnosed most accurately from a whole chest tomogram.[3]

Respiratory function studies are of considerable use in the diagnosis and evaluation of emphysema. One of the most important aspects of pulmonary function is ventilation, that is, the ability to get air in and out of the lungs. In emphysema a basic abnormality of ventilation is obstruction to air flow, especially on expiration. It is possible to measure this quickly and simply by means of a Gaensler-Collins timed vitalometer (Fig. 2). The patient takes as deep a breath as possible, places the mouth-piece in his mouth and blows out into the machine as fast as he can and for as long as he can. The one pointer will show the vital capacity and the other pointer will show how much of the vital capacity has been expired in the first second of expiration. This is called the forced expiratory volume one second or one-second timed vital capacity.[4] A normal person will blow out over 70%

*Canadian Tuberculosis Association Lecture presented at the Fourth National Scientific Convention of the College of General Practice of Canada, Montreal, March 1960.

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Fig. 2.—Apparatus for measuring timed vital capacity. The left-hand pointer shows the total vital capacity and the right-hand pointer shows how much of the vital capacity has been expired in the first second.

of his vital capacity in the first second, whereas a person with emphysema with slow expiration will blow out, for example, only 40% of his total vital capacity in one second. The test measures the severity of the ventilation defect. Slowing of expiration occurs in other conditions such as asthma or asthmatic bronchitis. It is worth while to measure the timed vital capacity, then give the patient a bronchodilator drug and repeat the test. If an increase occurs in the volume of air that can be expired in the first second, this indicates the degree of reversible bronchospasm. If there is no increase in the volume expired in the first second, then this suggests that most of the patient's trouble is due to irreversible emphysema. One must also assess the effect of decreased ventilation on the levels of oxygen and carbon dioxide in the blood. Cyanosis, if present, means a serious degree of anoxia. Normally, the blood is about 95% saturated with oxygen. Cyanosis is often recognized only when the oxygen saturation is as low as 75%.[5] Thus, a patient may have a quite considerable lack of oxygenation, for example he might be at the 85% level, and cyanosis is not observed. Inadequate ventilation causes carbon dioxide retention, and this may be reflected in a raised carbon dioxide combining power of venous blood. This is a measure of the compensations made by the kidney to deal with the retention of carbon dioxide, and such adaptations occur slowly. If the patient's ventilation deteriorates, the carbon dioxide combining power may remain normal and only on the following day be raised. The test is useful in following trends, but not in the day-to-day management of patients. It follows that if a patient with emphysema is cyanosed and has a raised carbon dioxide combining power, he is in serious respiratory insufficiency. On the other hand, if he has no cyanosis and the carbon dioxide combining power is not raised, he may still be in relatively important ventilatory trouble. If one requires an accurate and detailed assessment of the patient's respiratory function, it is necessary to have tests carried out in a well-equipped respiratory laboratory. Several different measurements of ventilation are made; the oxygen saturation and the carbon dioxide pressure of arterial blood are estimated and it is possible to measure the rate of diffusion of oxygen from the alveoli into the blood. Measurements may be made of the stiffness of the lungs, the resistance to air flow and the amount of work the patient performs during breathing. From the tests it is possible to obtain a true picture of the patient's disability, and the tests also act as a baseline with which to compare changes in the years to come. Such an exact evaluation is also useful where the diagnosis is uncertain.

In the treatment of emphysema, one might first consider the uncomplicated case: the slightly wheezy, coughing, middle-aged or elderly man whose main complaint is dyspnœa. It is important to be systematic, definite and enthusiastic. One must deal with smoking, infection and bronchospasm. Emphysema is usually a disease of smokers,[6] and smoking should be completely stopped. Respiratory function tests show a decrease in pulmonary function after only one cigarette in patients with emphysema.[7] Infection must be eliminated and future infections, if possible, prevented. One of the most recent theories as to the etiology of emphysema is that there is a diffuse permanent obliteration of bronchioles, probably due to a virus bronchiolitis with secondary bacterial infection.[8] The alveoli distal to the obstruction remain air-containing as air reaches them through tortuous passages and alveolar pores from nearby alveoli with patent airways. However, on expiration there is reduction of lumens of the passages of exit and closure of the pores, and air trapping occurs which leads to raised pressure and a breakdown of the alveolar wall and the development of emphysema. One can do little about the virus infection, but one can treat the bacterial infection. If the sputum is mucopurulent or purulent, infection is present.[9] The bacteria most frequently present are *Hæmophilus influenzæ* and the pneumococcus. The antibiotics most used are either penicillin plus streptomycin or tetracycline or chloramphenicol. If the sputum is mucoid, no improvement in the patient's symptoms will occur from antibiotic therapy irrespective of the type of organisms cultured from such sputum. In a patient with emphysema a cold is a serious infection, and may be a prelude to a bacterial infection of the lower respiratory tract. The patient should go to bed at once and take tetracycline, one capsule four times a day, for five to seven days, in the hope of preventing the secondary bacterial infection which might lead to progression of the emphysema. Those who have repeated infections are given tetracycline 250 mg. twice a day on a long-term basis indefinitely, or for at least that part of the year when infections occur most often. In these patients on long-term treatment, irrespec-

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tive of symptoms, if the sputum becomes purulent the dose is increased from two to four capsules a day until the sputum becomes mucoid. Occasionally the antibiotic may have to be changed. The patient should be taught to observe his sputum accurately.

Bronchospasm must be vigorously treated in all cases. There may be considerable bronchospasm even in the absence of rhonchi on auscultation. The patient should take one or two ephedrine, aminophylline, phenobarbitone combination capsules four times a day, and an aminophylline suppository at night. He should use a bronchodilator spray four times a day; he should use this by exhaling slowly and completely and then releasing the spray into the mouth several times whilst taking a deep breath. This should be repeated three or four times. Many patients who should get benefit, do not do so because they use the atomizer inefficiently.

What is the place of steroids in the treatment of emphysema? Prednisone may reduce bronchospasm and may decrease inflammatory or allergic œdema of the mucosa of the bronchioles, thus increasing the airway and improving ventilation. In a small personal series there was objective improvement in ventilation in over 50% of cases treated with prednisone but no improvement of ventilation in the patients given a placebo tablet.[10] The dosage used was 30 mg. daily in divided doses decreasing by 5 mg. every five days to a maintenance dose of 10 mg. daily. Ventilation tests, at least the timed vital capacity, should be performed before starting treatment, and then repeated after two weeks and after one month of treatment. If there is objective improvement, this is often maintained if prednisone is continued at a level of 10 mg. daily. If the patient on long-term prednisone treatment develops an infection, the prednisone dose must be raised along with the giving of an antibiotic. If there is no improvement in the tests after one month, treatment should be discontinued by giving decreasing doses over a period of weeks. Suddenly stopping treatment might precipitate adrenal failure. Patients will claim improvement after placebo tablets, and prednisone is a relatively dangerous drug to use for psychological effect. There must be improvement in measured ventilation to make the risks worth while. The risk of steroid therapy is particularly great in patients with emphysema because peptic ulcer, usually duodenal, is three times more frequent in patients with emphysema than in analogous non-emphysematous controls.[11] It is thus best to give the patients with emphysema an antacid with each dose of steroid even in the absence of a history of indigestion.

Abdominal binders, pneumoperitoneum and breathing exercises probably are of little value in the treatment of emphysema. In summary, one should recommend no smoking, treat the infection and bronchospasm, and do a controlled trial with prednisone.

The seriously ill patient with emphysema usually has a pneumonia, is cyanosed, is breathing shallowly, and is often in florid right heart failure. The right heart failure is basically due to a raised pulmonary artery pressure caused by anoxia and structural changes in the lungs. The same principles apply to treating infection and bronchospasm, and prednisone is usually given. The customary treatment of salt restriction, digitalis and diuretics is used for the cardiac failure. In resistant cases a venesection of 300 ml. may be useful. In addition these patients need oxygen, but the respiratory drive depends on stimulation by low oxygen in the blood because the respiratory centre has become insensitive to carbon dioxide. If these patients are given oxygen, breathing may become more shallow and slow, and although the patient looks better because he is less cyanosed, the carbon dioxide in the blood rises and he may become comatose and may even die from carbon dioxide narcosis. There are three ways to deal with this.—The simplest but least efficient method is to use nasal oxygen at one litre a minute for 30 minutes in each hour. This may provide enough oxygen to tip the balance in favour of the patient, and will not be sufficient to inhibit the respiratory centre. Another technique is to give oxygen continuously at 5 litres per minute, and in addition to stimulate the respiratory centre by chemical means. Nikethamide, in the usual 25% solution, is given intravenously in a dose of 3 ml., and if ventilation is not stimulated, the dose may be increased even up to 10 ml. If effective, respiration may be maintained by a continuous intravenous drip, usually about 5 ml. of nikethamide in 100 ml. of fluid per hour. Another method is to give nikethamide intramuscularly in a dosage of 5 ml. every two hours.[12] For sedation it is best to use paraldehyde 2-3 ml. by mouth or intramuscularly. These patients are often very sensitive to paraldehyde, and this very small dose is usually effective. Morphine, meperidine and barbiturates are all contraindicted, as they may cause a fatal further depression of respiration.

A desperate patient who is comatose, deeply cyanosed and who has very slow gasping respirations, may be saved by having an anæsthetist put in a cuffed oroendotracheal tube. The patient is then bagged with oxygen through the tube. It is astonishing to see how some of these apparently hopeless, moribund patients rapidly improve. This type of treatment may be carried on for only a few hours, and the patient must be transferred to a centre where a team is available to deal with such patients on a long-term basis.[13] For long-term treatment a tracheotomy is performed, and a cuffed tube inserted. This is connected to an intermittent positive pressure machine (Fig. 3), which either assists the patient's own breathing or takes over the breathing completely. Tracheotomy

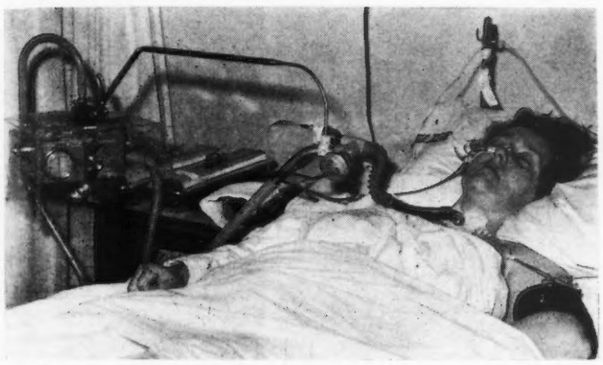

Fig. 3. — Patient being treated by intermittent positive pressure respiration. A Bird respirator (left) is connected to a cuffed tracheotomy tube.

alone, even without the use of an artificial respiration machine, may be life-saving in these patients, because it allows sputum to be aspirated by means of a catheter inserted deep into the bronchial tree. These patients have a reduced ability to cough, and the thick purulent sputum blocks the bronchi, reduces ventilation and is one of the important factors contributing to respiratory failure. The patient, if he can be kept alive until the antibiotics deal with the pneumonia, will often make a good recovery. Although he will be as restricted as he was before the acute illness, he may have a long period to enjoy sedentary activities.

SUMMARY

The diagnosis of significant emphysema can be made at the bedside. Enthusiastic treatment with bronchodilator drugs, with antibiotics and with prednisone, can substantially help these disabled people. Even the moribund patient is not a hopeless case and may be returned to useful life by active treatment.

Fig. 1 is reproduced by the kind permission of the *American Review of Respiratory Diseases.*

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BILATERAL LEGG-CALVE-PERTHES DISEASE: A NEW TREATMENT*

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A. E. FOSTER,‡ *Toronto*

BILATERAL involvement occurs in about 20% of cases of coxa plana or Legg-Calvé-Perthes disease.

This necrosis of both femoral heads may be noted on the initial roentgenogram, but usually changes in the second hip occur six months to two and a half years after the disease has started in the first hip.

A painful or painless limb, associated with spasm of muscles of the hip manifested by limitation of internal and external rotation, with some atrophy of thigh and calf, are the classical signs and symptoms of coxa plana. Occasionally the pain is referred to the knee. Very occasionally there are no signs or symptoms. The sex incidence is usually five males to one female;[1] the peak age of onset is between four and nine years; frequency in the general population is about 1 in 20,000.

In a study of 212 cases at the Hospital for Sick Children, Toronto, completed in January 1959,[2] the frequency of occurrence of coxa plana was 1 in 35 siblings, born subsequently to 124 probands, suggesting a significant familial incidence. Pathologically there is initially a subarticular line of decalcification followed by increased density of the head, metaphyseal cavitation, lateral metaphyseal erosion, progressing to a partial or complete necrosis of bone, followed by regeneration and healing. If treated adequately and early, this process lasts about 28 months, and if later, from three to five years are required for recovery.

Most observers feel that the prognosis depends on the degree of flattening of the femoral head and widening of the femoral neck. Furthermore, the degree of eventual restriction of hip movement and amount of limb shortening parallel the degree of anatomical deformity of the head. The joint space must be maintained at all times during healing. This can only be done by taking all pressure off the capitulum, until regeneration is sufficient for weight bearing.

The majority of observers believe that in unilateral cases the Taylor walking brace, properly fitted and worn, achieves as good results as complete bed rest with or without splinting.[3] To put a child to bed for this long-drawn-out period of recovery now seems unnecessary and likely harmful to the child emotionally if not also physically. To date, however, it is the accepted practice to put the child with bilateral disease to bed until one side heals. Some allow the child to sit in a wheelchair during the day. It is almost impossible to keep these children (who feel extremely well) from

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This paper was presented at the meeting of the Canadian Pædiatric Society in Banff in June 1960 and submitted for publication on May 27, 1960.

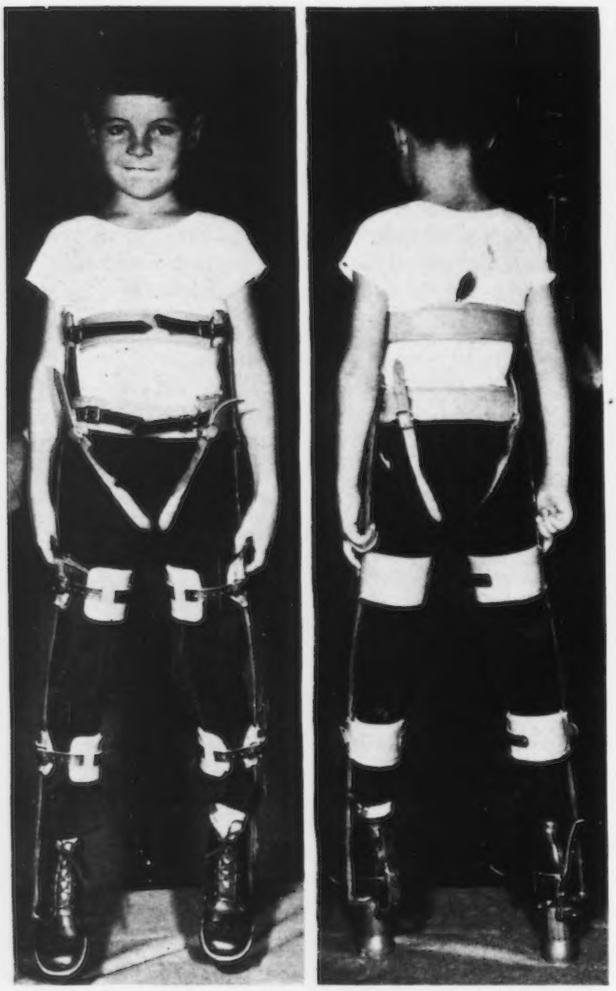

Fig. 1.—Brace with double trunk bands.

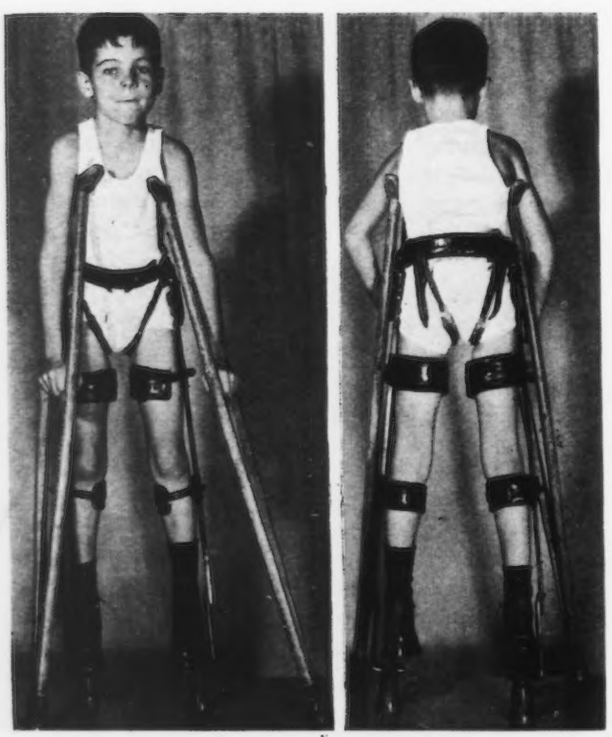

Fig. 2.—Brace with single trunk band.

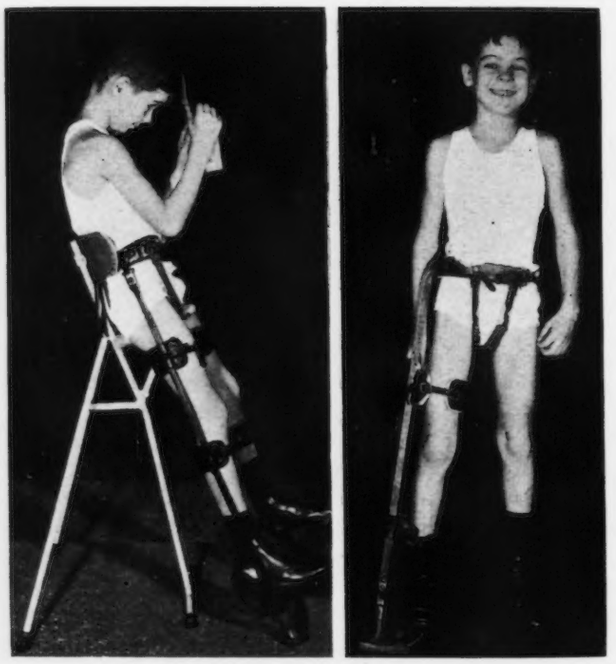

Fig. 3a. Fig. 3b.

Fig. 3a.—Tripod stool in use with brace. Fig. 3b.—Unilateral walking brace.

getting up on their knees (which is just as bad as walking) unless constantly supervised. The child is taken out of school, out of contact with his fellows, and psychological warfare wages through various campaigns between the mother and child.

We should like to report very briefly our experience with a patient who was resistant to any persuasive means for bed or wheel-chair rest.

P.M., a well-nourished and active eight-year-old boy, developed a very slight limp at three years of age. Roentgenograms of the hips at this time were normal. The limp disappeared, but when he became tired, the mother thought that she could detect very slight dragging of the left leg. At five years of age (August 1957) the limp recurred and within a few weeks became quite marked. At this time he had adductor and rotation muscular spasm of the left hip joint. Roentgenograms of the hips showed bilateral coxa plana, more marked in the left hip.

He was put to bed for two months, by the end of which time the mother had given up all hope of keeping him from weight-bearing until one side had healed. We were at the point of admitting him to hospital, when it was decided to try to make a bilateral splint for him.

In October 1957, a brace was designed to allow the patient to walk with the aid of crutches, the weight of the body being transmitted from the brace to the ischial tuberosities, thus preventing weight-bearing through the hip joint.[4] Two perineal straps were attached to a leather-covered metal pelvic band. This band was made of aluminum alloy, specification 24ST, and was 1½" wide and ¼" thick. For additional strength and stability, a second band at the nipple line was secured to the pelvic band by two upright steel bars, welded to the main lateral bars (Fig. 1). This second (upper) band was removed after two months because the single pelvic band allowed far greater mobility and

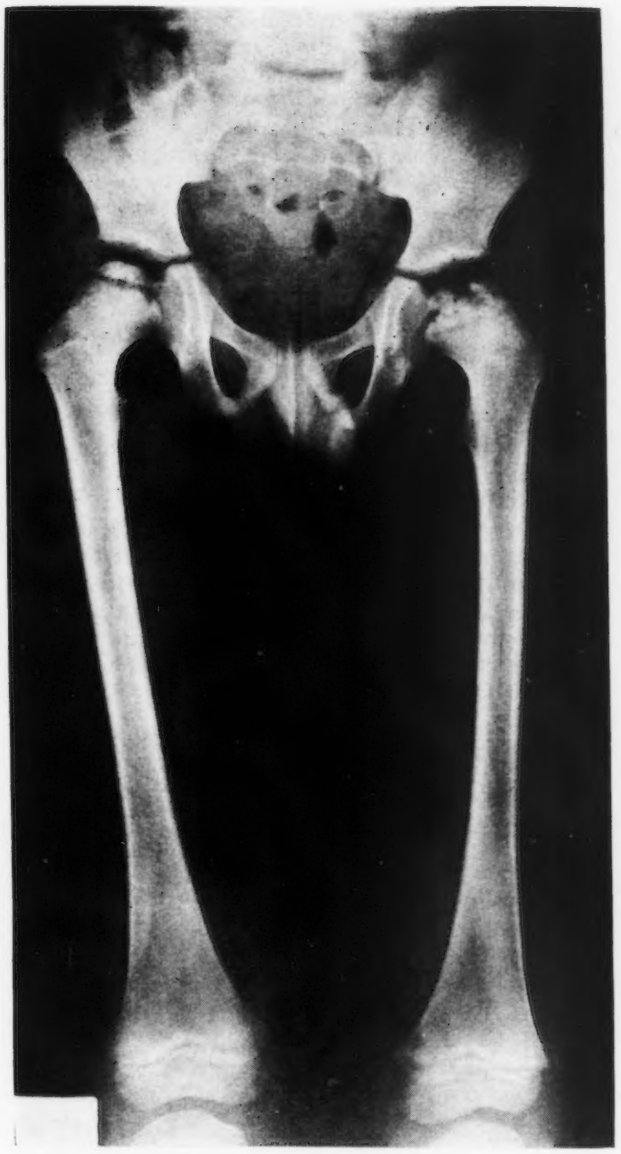

Fig. 4, September 1957.—Roentgenogram showing bilateral disease.

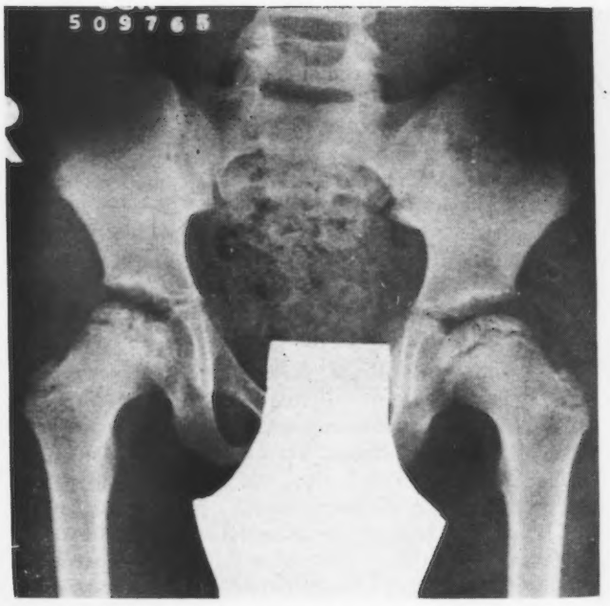

Fig. 6, July 1959.—Roentgenogram showing healing on the left side.

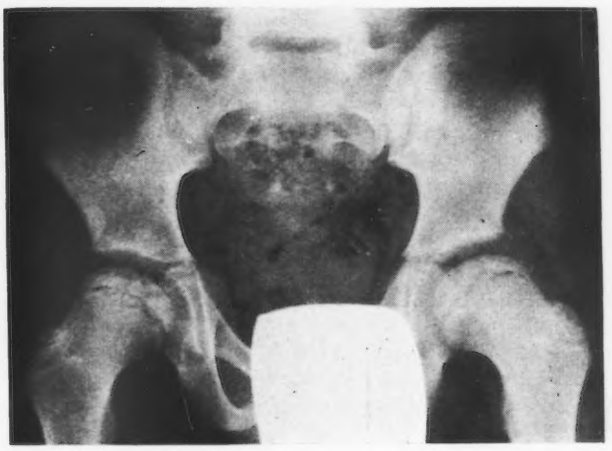

Fig. 7, March 1960.—Roentgenogram, antero-posterior view showing recovery.

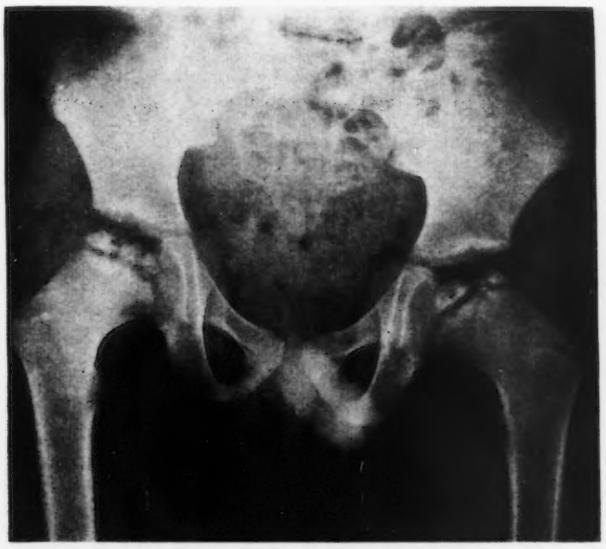

Fig. 5, April 1958.—Roentgenogram showing progression of bilateral disease.

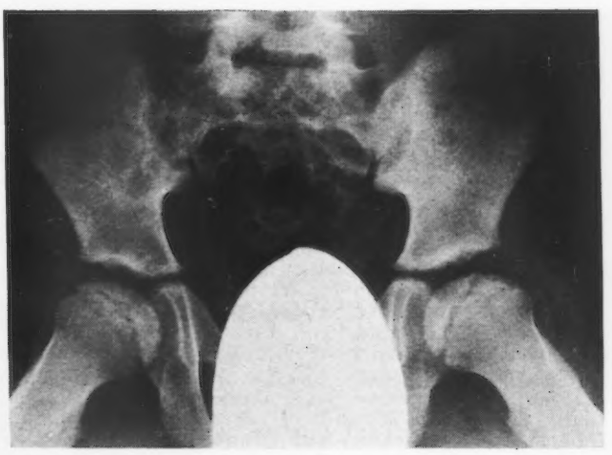

Fig. 8, May 1960.—Roentgenogram, showing satisfactory contour of heads.

These roentgenograms show progressive change in the femoral heads.

balance without any loss of brace efficiency. An orthopædic steel ⅝" x 3/16" was used first for the main lateral bars, but the patient proved to be so active that bowing of the lateral bars occurred. These were then replaced with bars of Atlas SPS-245, measuring ½" x ⅜", and this proved to be quite satisfactory. Originally a bar joined the two main bars distally, but the patient was able to walk more easily when a limited amount of independent movement was allowed by removing this bar. By virtue of the spring-like nature of the pelvic band, a limited motion was possible at the hip, allowing a forward and backward motion of about 10° each way in each perpendicular leg bar (Fig. 2).

The lower end of the main lateral bars was constructed to allow for lengthening with growth. This was achieved by two overlapping bars locked together by steel machine screws. The weight was borne on ordinary suction crutch tips, attached to a piece of steel tubing ⅞" in diameter and 2" long. Two leather cuffs were attached to the lateral bars, one above the knees and one above the ankle to prevent excessive swaying of the legs. These were kept loose enough to prevent weight from being transferred from the brace to the leg and hence to the hip. The heels of the shoes were removed for increased clearance. A ½" buckle was attached to the shoe upper at the back, connecting to the bottom section by a strap to prevent foot drop. The elevation of the toe of the shoe was adjusted by this strap. With the patient in the brace, a pair of crutches of suitable length was made.

Since this type of brace made it difficult for the patient to sit in an ordinary chair, a three-legged stool was designed. A bicycle-type seat was mounted on ⅝" diameter steel tubing, the height of the seat from the floor being about 2" below the crotch height, measured with the patient standing upright in the brace. This height allowed the patient to back on to the seat without bending forward. Ordinary rubber chair tips were used on the legs of the stool (Fig. 3a).

At first the patient found the brace awkward and had some difficulty getting around with crutches. However, within a few days he was quite mobile, and after a few weeks at times discarded the crutches and walked like the circus stilt man. Most of his falls were in a forward direction, and he learned to break the impact by using his hands and arms. After he was able to walk around the house in the brace, and especially when he was able to return to school, his personality improved greatly. Whereas formerly his mother was constantly after him to keep off his knees, he could now hobble around freely, and he became a much happier child.

The child's general health has been good, apart from recurrent tonsillitis, which was cured by tonsillectomy and adenoidectomy in October 1958. He had a fracture of the middle phalanx of the fifth digit of the right hand, sustained from a fall while wearing the double brace. The fracture healed well.

He was kept in a bilateral brace for 22 months, from October 1957 to August 1959. At that time the left femoral head had healed sufficiently to bear weight, and he was fitted with a Taylor walking brace (Fig. 3b). He wore this until April 17, 1960, when his treatment was completed and the brace removed. His final roentgenogram showed satisfactory healing.

SUMMARY

A new method for the ambulatory treatment of bilateral coxa plana has been presented. It has proved satisfactory in one case. The authors hope that this method of treatment will receive wider trial so that an adequate assessment of its value may be established.

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TRENDS IN ACCIDENT MORTALITY

Catastrophes . . . accidents in which five or more persons are killed . . . took about 600 lives in the United States during the first half of 1960, it is reported by statisticians of the Metropolitan Life Insurance Company.

This loss of life was considerably less than the toll in the comparable period of 1959, and is one of the lowest on record, the statisticians point out.

Through June there were four disasters in which 25 or more persons were killed, three of them involving scheduled aircraft. On January 6, 34 persons died when a plane disintegrated in the air near Wilmington, N.C.—possibly as a result of sabotage by dynamite. Another scheduled plane crashed on January 18, southeast of Richmond, Va., with a loss of 50 lives, and a third exploded in flight near Tell City, Ind., on March 17, killing 63 persons . . . the greatest single disaster of the period. The fourth disaster was a series of tornadoes which smashed through eastern Oklahoma and Arkansas on May 5, causing 29 deaths, most of them in Oklahoma.

Catastrophic fires in dwellings and apartments killed only half as many people as in the first half of 1959. The record for catastrophic motor vehicle accidents was also relatively more favourable, except for collisions between motor vehicles and trains. Tornadoes and floods both caused fewer deaths this year than last.

THE HIGH COST OF DYING

Heart disease and cancer were responsible for nearly two-thirds of the $527,000,000 in death claims paid last year by the Metropolitan Life Insurance Company.

In 1959, diseases of the heart, arteries, and kidneys accounted for death claim payments of about $288,000,000, or for 55% of the total; this was $49,000,000 more than the amount paid on claims for all other causes of death combined. Payments on account of heart disease alone were over $229,000,000, of which $142,000,000 was for deaths from coronary artery disease.

Cancer deaths resulted in the payment of $106,000,000 in claims, or 20% of the year's total. Two decades ago these claims were not quite 14% of the total.

External causes of death—accidents, suicide, and homicide—accounted for 12% of last year's claim payments. $50,500,000 was paid on accidents—nearly $5,700,000 more than in 1958. Claims paid as a result of fatal motor vehicle accidents amounted to about $26,500,000 or $3,400,000 more than in 1958.

Reversing the recent trend, death claim payments for poliomyelitis increased from $52,000 in 1957 to $118,000 in 1958 and further to $217,000 last year. On the other hand, there were continued decreases in the proportion of total death claim payments due to tuberculosis and the communicable diseases of childhood.

A STUDY OF THE HÆMORRHAGIC DIATHESIS IN LEUKÆMIA AND ALLIED DISEASES*

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AN ABNORMAL bleeding tendency is a frequent complication in patients with leukæmia and related myeloproliferative disease. While there is some correlation between hæmorrhagic manifestations and severe thrombocytopenia, the relationship is by no means invariable. In many instances, the platelet count is normal or increased, and one must consider other possibilities, such as a qualitative platelet deficiency, an abnormality of some other coagulation component, an inadequate vascular response, or some combination of these factors. The following study was undertaken in the hope of clarifying the abovementioned features.

CLINICAL ASPECTS

The patients studied were selected from those referred to the B.C. Cancer Institute and the Hæmatology Service of the Vancouver General Hospital between March 1957 and April 1959. The diagnosis was established by the usual clinical and laboratory criteria, including the study of the marrow aspirate in all cases. Those patients classified as "myeloproliferative syndrome" had a hypercellular marrow, and frequently had increased megakaryocytes in the marrow, but did not, from a clinical point of view, fit clearly into any of the usual diagnoses.

METHODS

Standard methods were used for routine hæmatological determinations.[1] Clotting times were performed by a modified Lee and White method (normal 6 to 12 minutes), and bleeding times by Duke's method. Routine platelet counts were determined by the indirect method (normal 200,000 to 500,000 per c.mm.). Platelet counts for the thromboplastin generation test were carried out in the platelet-rich plasma by the direct method.[2] Other tests used were the factor V assay,[3, 4] prothrombin assay,[5] factor VII assay,[5] thromboplastin screening test,[7] thromboplastin generation test,[8] thrombin fibrinogen reaction,[9] fibrinolysin screening test,[10] factor VIII assay[11] and factor IX assay.[12]

In the thromboplastin generation tests, plasma dilutions of 1:5 and 1:10, and serum dilutions of 1:10 and 1:20, were used. The platelets obtained from platelet-rich plasma were washed three times in isotonic saline and were then reconstituted to

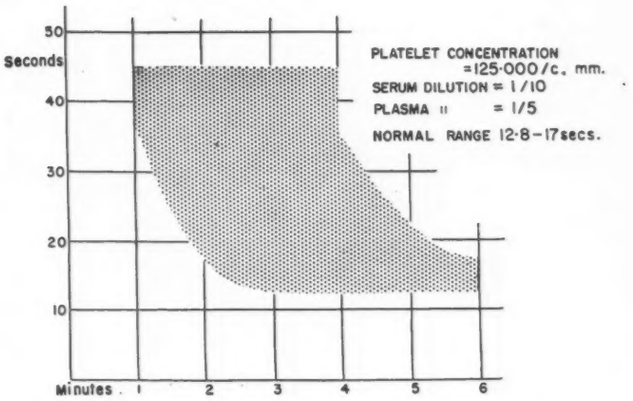

Fig. 1.—Normal platelet function in the thromboplastin generation test.

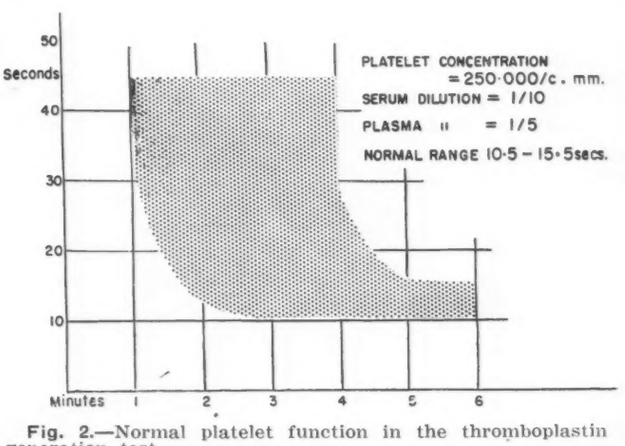

Fig. 2.—Normal platelet function in the thromboplastin generation test.

be equivalent to concentrations of 750,000 per c.mm., 500,000 per c.mm., 250,000 per c.mm., and in some of the later observations 125,000 per c.mm. These concentrations were calculated from the direct platelet count performed on the platelet-rich plasma. A platelet count was also made on the plasma after spinning and was usually 2% to 5%, and always less than 10%, of the initial platelet rich plasma count. These platelet suspensions were then used as the platelet components, along with normal plasma treated by aluminum hydroxide, a dilution of 1:5, and normal serum at a dilution of 1:10, and normal substrate. Normal ranges for the thromboplastin generation test at each of the various platelet concentrations were determined on a group of 20 or more normal individuals, mainly laboratory personnel. The results are shown in Figs. 1, 2, 3 and 4.

RESULTS AND DISCUSSION

The major results are recorded in Table I. Within each diagnosis, the patients without abnormal bleeding are listed first.

Fibrinogen estimations and fibrolysin tests were performed on 39 patients. Only one patient, Case 44, had a low fibrinogen. This patient and two other patients (Cases 27 and 34) had a circulating fibrinolysin. Neither of these latter two patients had any other coagulation defect or excessive bleed-

*From the Department of Medicine, University of British Columbia, and the Hæmatology Laboratory, Department of Pathology, Vancouver General Hospital, Vancouver.
Supported by a grant from the National Cancer Institute of Canada.
†Deceased.

TABLE I.

Diagnosis	Case No.	Abnormal bleeding	Capillary resistance test	Bleeding time (minutes)	Platelet count $\times 10^3$/c.mm.	Clot retraction	Clotting time (minutes)	One-stage prothrombin %	Prothrombin %	Factor V %	Factor VII %	Thrombin fibrinogen	Screening T.G.T.	Thromboplastic generation test: Plasma dilutions	Serum dilutions	All patients	Platelets 750$\times 10^3$/c.mm.	Platelets 500$\times 10^3$/c.mm.	Platelets 250$\times 10^3$/c.mm.	Platelets 125$\times 10^3$/c.mm.
Blast cell leukæmia	1	—		2½	100	N	11	75	100	75	100	N	N	N	N	N	N	N	N	
" " "	2	—		1	180	N	10	100	80	100	100	N	N	N	N					
" " "	3	+	—		16	N	11	65	100	85	65	N	N	N	N					
" " "	4	+	—	2	34	N	15	60	100	100	45	N	N	N	N		A		A	
" " "	5	+	—	3	20		12	100	100	100	85	N	N	N	N	N				
" " "	6	+	+	4	9	A	12	51	75	60	40	N	N	N	N	N				
" " "	7	+	+	1½	37	N	11	100	100	100	100	N	N	N	N	N	N	N	N	
" " "	8	+	—	3	55	A	7	90	100	100	92	N	N	N	N	A	A		A	A
" " "	9	+	—	2½	15	A	11	60	90	50	60	N	N	N	N					
Lymphosarcoma	10	—			26			100	100	100	100	A	N	N	N					
Chronic lymphocytic leukæmia	11	—		3	298	N	10	80	100	80	100	N	N	N	N	N	N		N	N
" "	12	—		1	70	N	9	80	100	100	90	N	N	N	N	N	N	N	N	
" "	13	—	—	1	230	N	6	100	100	100	100	N	N	N	N	N	N	N	N	
" "	14	+	+	2½	55	A	9	100						N	N	N	N			
Lymphosarcoma	15	+		2	59	A	12	100						N	N	A	A	A	A	
"	16	+	+	1½	205	N	10	100	100	100	70			N	N	N	N	N	N	N
"	17	+	—	2½	730	N	45	75	100	100	70	A	A	N	N	A	N		N	N
Chronic lymphocytic leukæmia	18	+		1	104	N	12	100						N	N	N	N	N	N	
Chronic lymphatic leukæmia	19	+		11½	35	N	7	100	100	100	100	N	N	N	N	N	N	N	N	
" "	20	+	—	10	115		7	100				N		N	N	A	A	A	A	
Chronic granulocytic leukæmia	21	—	—	1	570	N	8	65	50	55	65	N		N	N	N	N	N	N	
" "	22	—	—	1½	718	N	12	95	90	100	80			N	N	N	N	N	N	
" "	23	—		1½	2300	N	8	95						N	N	N	N	N	N	
" "	24	—		5	500	N	9	65					N	N	N					
" "	25	—		2	240	N	10	100				N	N	N	N	N	N	N	N	
" "	26	—	—	2	100	N	11	90						N	N	N	N		N	N
" "	27	—	—	1½	115	N	9	90	100	100	100	N	N	N	N	N	N		N	N
" "	28	+		1½	650	N	9	75	80	100	70	N	N	N	N	N	N	N	N	
" "	29	+		3½	1275	N	9	75	100	100	100	N	N	N	N	A	A	A	A	
" "	30	+		2½	244	N	9	90	100	100	80	N	N	N	N	N	N	N	N	
" "	31	+	—	6½	670	N	11	45					N	N	N	N	N	N	N	
Subacute granulocytic leukæmia	32	+		3	49	A	12	60	95	70	55	N	N	N	N	N	N			
" "	33	+	—	3	87	N	11	75	65	75	85	N	N	N	N	A	A			
Polycythæmia rubra vera	34	—	—	1½	940	A	15	100	100	100	85	N	N	N	N	N	N		N	N
" " "	35	—		3	496	A	9	90	100	70	80	N	N	N	N	N	N			
" " "	36	—		2	632	N	9	65	55	60	80	N	N	N	N	N	N	N	N	
" " "	37	—		2	860	N	12	75	65	65	55	A		N	N	A	N	N	N	
" " "	38	—	—	1	621	N	10	65	70	40	55	N		N	N	A	N	N	N	
" " "	39	—		3	577	A	7	100	75	75	100			N		N				
" " "	40	—		3	741	A	8	85					N	N	N	N	N			
" " "	41	+	—	2	118	A	16	88	100	30	60	N	N	N	N	A	N			
" " "	42	+	—	4	290	A	5	65	75	70	70	N	N	N	N	N	N	N	N	
" " "	43	+		15	3110	N	16	100				A	N	N	N	N	N	N	N	
" " "	44	+		2	459	N	8	100	75	75	60	N		N	N		N			
" " "	45	+		1	1413	A	9	90				N	N							
" " "	46	+		1	1373	A	9	65	100	40	60	N	A	N	N	A	N	N	N	
" " "	47	+	+	1	1782	A	10	100				N		N	N	N	N	N	N	
" " "	48	+		2	955	N	9	100	100	100	100		N	N	N	N	N			
Myeloproliferative disease	49	—	—	1	1355	N	10	75	100	75	80	N	N	N	N	N	N	N	N	
" "	50	+		2	2500	N	12	90	75	55	60	N		N	N	N	N	N	N	
" "	51	+	—	4	225	N	8	100	100	100	90	N	N	N	N	N	N	N	N	
" "	52	+		2	58	N	10	100	90	100	95	N	N	N	N	N	N	N	N	N
" "	53	+	+	1	192	N	8	90					N	N	N	N	N	N	N	
" "	54	+			47	N	8	80	55	85	70	A	N	N	N	N	N	N	N	
" "	55	+	—	1	644	N	5	100						N	N	A	N			
" "	56	+	—	2	611	N	12	100						N	N	N	N	N	N	
Multiple myeloma	57	—		2	240	N	13	55	60	75	40	N	N	N	N	N	N	N	N	
" "	58	+		3	246	A	21	40	100	50	100	A	N	N	N	A	N	N	N	

ing. In the remainder of the patients the fibrinogen estimations were normal or slightly elevated.

Because of the abnormal thrombin fibrinogen reaction, 10 c.c. of 1% protamine sulphate was given intravenously in Case 37 without any change in the thrombin fibrinogen reaction. In Case 43, an unsuccessful attempt was made to correct the thrombin fibrinogen *in vitro*, using protamine sulphate.

The patient of Case 20, who showed a qualitative platelet deficiency in the thromboplastin generation test, was given 20 mg. a day of prednisone and was re-investigated one week later. The platelet count remained unchanged. Platelet function, however, had returned to normal and abnormal bleeding had ceased.

In four instances, Cases 43, 47, 50 and 56, platelet concentrations equivalent to counts of from 1,750,000 per c.mm. to 12,000,000 per c.mm. were used with normal plasma, normal serum and normal substrate in the thromboplastin generation test. In all instances, normal or slightly faster than normal generation of thromboplastin was obtained.

The abnormal thromboplastin generation test in Case 41 would appear to have been due to a deficiency in factor V, since antihæmophilic globulin was present in 60% of normal concentration and Christmas factor was present in normal amounts.

An abnormal hæmorrhagic tendency was found in 36 of the 58 cases studied, an incidence similar to that reported by Perry[13] and Lewis *et al.*[14] In 25 of the 36 patients a hæmostatic defect which would adequately explain their hæmorrhage was demonstrable. A further three patients had a questionable defect and two patients had only a thrombocytosis, while in the remaining six patients no abnormality was demonstrated.

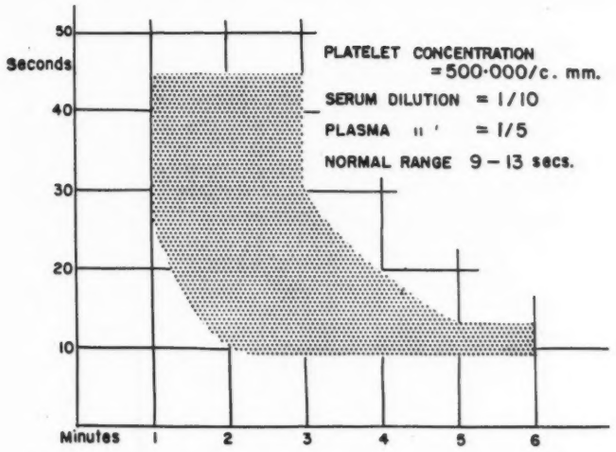

Fig. 3.—Normal platelet function in the thromboplastin generation test.

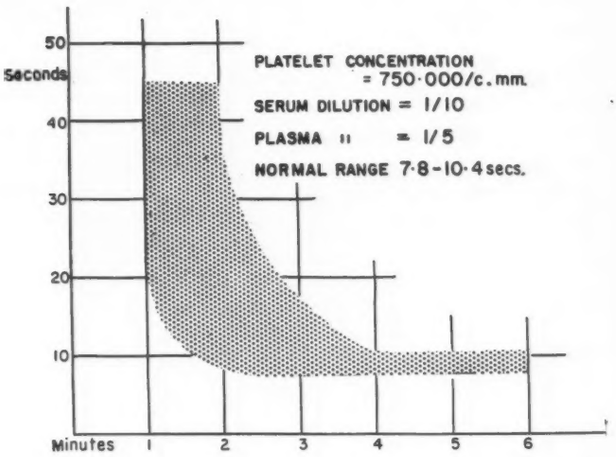

Fig. 4.—Normal platelet function in the thromboplastin generation test.

Of the 22 patients without abnormal bleeding six had a significant coagulation defect, 11 had a questionable defect, two had only a thrombocytosis, and four were normal.

The overall correlation between a hæmostatic defect and the occurrence of hæmorrhage in any individual patient was poor.

In all cases where an abnormal capillary fragility, a prolonged bleeding time or prolonged clotting time was found there had been hæmorrhagic manifestations.

Twenty patients had platelet counts less than 150,000 per c.mm. and 16 of these had hæmorrhaged. The platelet count was in excess of 1,000,000 per c.mm. in nine patients and seven of these had bleeding.

All six patients with a functional platelet defect bled. Five of these patients were thrombocytopenic and one was thrombocythæmic. This relatively small number of patients exhibiting a qualitative defect is in sharp contrast to the findings of Perry,[13] who reported nearly two-thirds of his patients as having such a defect.

Six of the patients with marked thrombocytosis had fairly markedly prolonged hæmorrhage, one had mild hæmorrhage and two had none. Our findings differ from those of Hardisty and Wolff[15] in that only the patient with mild hæmorrhage had functionally abnormal platelets when tested with the thromboplastin generation test.

The one-stage prothrombin activity was below 50% in two patients and between 50 and 75% in 11 patients. In only one patient, Case 31, could the low one-stage prothrombin activity by itself be held responsible for the hæmorrhage.

A correlation of the factors involved in the one-stage prothrombin activity could not be established, as no assay of the Stewart-Prower Factor was made. The mild to moderate depression of true prothrombin and factor V showed little effect on the one-stage activity. A rather better correlation existed between factor VII activity and the one-stage activity. An abnormal thrombin fibrinogen was found in six of 43 cases, a not too dissimilar incidence to that of Lewis and her colleagues,[14] who found nine thrombin fibrinogen abnormalities in 39 cases. The abnormality was shown to be unresponsive to protamine in two instances, as was the case in the patient described by Lewis *et al.*[14] Previous studies[6, 14] have shown that low fibrinogen levels and the presence of fibrinolysins are uncommon in leukæmia. The present study is in accord with these findings.

SUMMARY

Of 58 patients with leukæmia and allied disorders, 36 demonstrated hæmorrhage. The correlation between a coagulation defect and hæmorrhage was disappointing. Not only does the cause of bleeding in many patients remain obscure but also there is no hæmorrhage in others where it might be expected.

The authors would like to thank Dr. D. M. Whitelaw for his helpful criticism; Mrs. L. Black and Mr. G. Vantongeren for their technical help, and the Job's Daughters of British Columbia for their financial assistance in regard to major equipment.

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VITAL STATISTICS AND MEDICINE*

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IN 1759, HEBERDEN edited, with informative commentary, "A Collection of the Yearly Bills of Mortality, from 1657 to 1758 inclusive, together with several other Bills of an earlier Date, to which are subjoined (I) Natural and Political Observations on the Bills of Mortality: by Capt. John Graunt, F.R.S." and other essays on vital statistics by "Sir Wm. Petty, Kt., F.R.S.; Corbyn Morris, Esq., F.R.S.; and J. P., Esq., F.R.S."† This volume demonstrates clearly not only the lively interest of a great physician in the limited records of that time, but also the instructional value of such records in the study of medicine. What of the more extensive data of today, two centuries after Heberden and three centuries after Graunt?

The function of vital statistics, as John Graunt conceived it in 1662, is implied in his words: ". . . . . that the state of health in the city may at all times appear." How well our records of this century accord with that concept may be inferred from a few examples from the Province of Ontario.[1] Before presenting them, however, a word of caution, though lamentably trite (Heberden emphasized it) is still, lamentably, as necessary: No figure in vital statistics is to be taken at its face value. Some varying degree of grossness — even error — is inevitably inherent in the data. The relationship to reality varies with sex, age, time, place, medical services, book-keeping, and the specific condition involved. Interpretation requires consideration of all the many vagaries, not only in diagnosis, certification and compilation of mortality (and morbidity), but also in population estimates and even in population counts. Any sustained change in the rates must be suspect of artifact until proved otherwise. As a prerequisite to the acceptability of any deduction from the data, it must be established as fully compatible with or reasonably reconcilable with other immediately and remotely relevant data (e.g. all causes combined), with general experience and with common-sense. As only age-sex specific rates show the differences between age-sex groups and as those differences are not only an essential part of the picture but are often indispensable for appraisal of the varying degree of reliability of the figures and, therefore, for their interpretation, the data will be presented, for the most part, in that form.

Mortality from all causes (combined) is shown in Fig. 1. Obviously this record is entirely free from the defects, often gross, associated with overlapping, errors and changes in diagnosis, certification

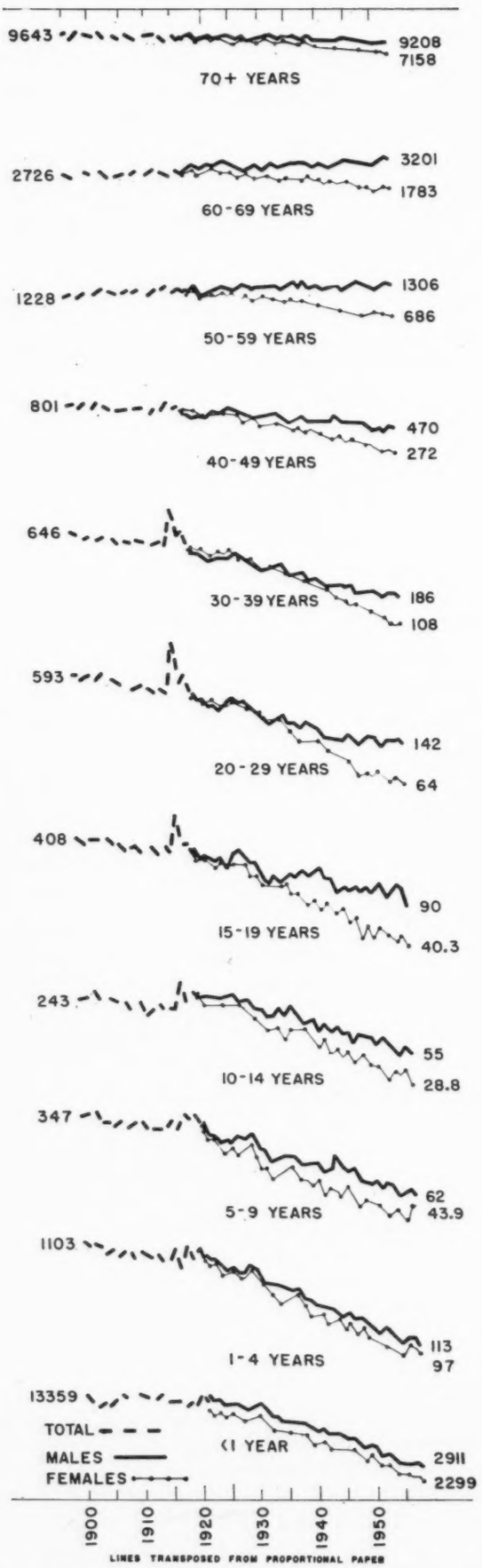

Fig. 1.—All causes (mortality rates per 100,000) Ontario.

*From the Department of Epidemiology and Biometrics, School of Hygiene, University of Toronto.

†This volume was presented to the "Toronto University Library by the Royal Astronomical Society through the Committee formed in the Old Country to aid in replacing the loss caused by the disastrous Fire of February the 14, 1890." It was found there, in 1936, probably in its original wrappings, by Dr. Mary A. Ross, then a member of this department.

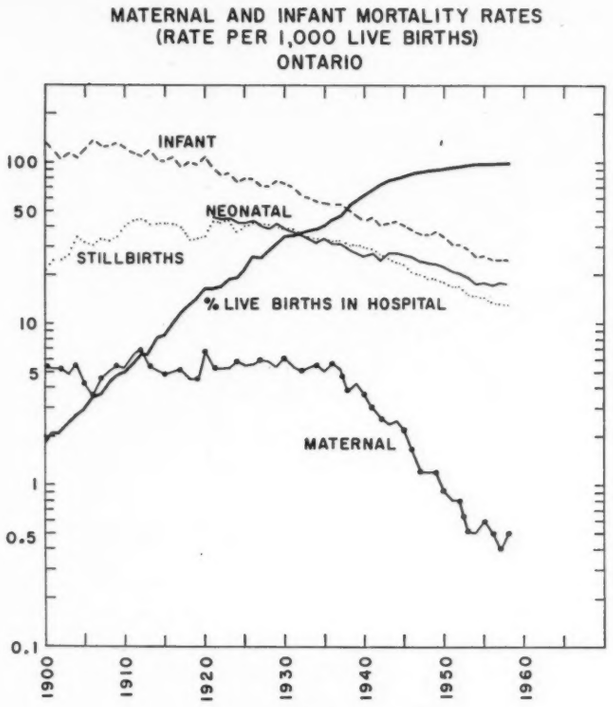

Fig. 2.

and classification of the specific cause. Its possible errors are confined to those associated with numerical completeness of reporting, with counts and estimates of population groups and with the certification of age and sex. There is substantial evidence, not dealt with here, that, for the period cited, such errors or even uncertainties are so small that their identification and correction would not perceptibly change the lie of the lines. Thus the record can be taken as closely approaching reality. Apart from the well-known declines in mortality, perhaps the most striking feature is the divergence between the male and female mortality trends.* Understanding of the factors that account for the trends and, too, of those that account for the differences between the sexes would seem to be basic to understanding of medicine — of health and disease. While some of the records of cause-specific mortality, presented below, suggest leads for the elucidation of some of those factors, the identification of all or any of them is beyond the scope of this note.

Maternal mortality, deaths causally associated with pregnancy, as recorded, 1900-1958, is shown in Fig. 2. As this category involves only a limited age group and as changes in the age distribution of that group have been small and tend to offset one another so that they do not appreciably affect the total, this mortality can be considered as a whole for a time comparison — if too much is not made of too little. According to the record, there was practically no reduction in maternal mortality until the late 1930's. No changes in the science or art of medicine or in their varied applications in that period appear to have affected that mortality. Then, coinciding with the introduction and use of sulpha drugs and, later, of antibiotics, there was an immediate and fairly abrupt decline. The immediate response of the record to what is now indubitably established as effectual treatment of puerperal septicæmia adds to the credibility of the earlier data and of the apparent failure to achieve earlier reduction. Before 1936 many treatments for puerperal septicæmia had been advanced. But, as early as 1813, William Hey wrote: "It is highly probable that the success of this method of cure [repeated emetics] has been unintentionally overrated. For, since its efficacy 'consists wholly in its early application, namely, 'in the very moment when the disease first commences' it must necessarily happen, that the remedy would be administered in many cases of febrile affection, which would not have terminated in the puerperal fever. And thus the plan of treatment would obtain a degree of credit which it did not deserve."* It is now generally recognized, it is thought, that any successor to Hey in the next century and a quarter, i.e. until the introduction of sulpha drugs (1936), might have written similarly or more strongly but with equal truth about the many treatments for puerperal septicæmia that were used. And it is still questionable, or at least controversial, that any thoroughly dependable prophylactic or treatment for eclampsia is yet at hand. Thus, this simple record in vital statistics appears to reflect fairly, though with no pretence at precision, the maternal mortality in Ontario for nearly 60 years. It demonstrates the need for such a constant official record as a check on other data.

Infant mortality is also shown in Fig. 2. The records of specific causes show, and credibly, that most of the decline was due to a reduction in mortality from gastro-intestinal infection long before there was any really effectual treatment, with smaller reductions in tuberculosis, pneumonia, whooping-cough, measles, diphtheria, etc. But it is impossible to allocate any precise proportions of the declines to the many factors which undoubtedly played their part. The earlier figures of stillbirths are probably far from reality, but the more recent are credible, though with reservations. It is still a fair question as to how and to what extent prenatal care contributed to the declines in

*As proportional paper shows the *proportional* amount of change rather than the *absolute* amount, declines of, say from 4 to 2, 8 to 4, 800 to 400 or 10,000 to 5000, each being 50%, would all show the same amount of fall from the respective horizontal line. Such declines occurring over a period of years would thus appear as parallel lines. Small *absolute* changes in relatively small numbers when plotted on proportional paper may thus give an erroneous impression of their significance. In the age groups under 20 the *absolute* differences between the male and female trends of mortality are very small. In the < 1, 1-4 and 5-9 age groups, the *absolute* magnitude of the decline in the male mortality is actually slightly more than in the female mortality but, for the purpose of this note, insignificantly so; in the 10-14, and 15-19 age groups, the *absolute* decline in the female is, perhaps, slightly greater than in the male, but insignificantly so. It is in the age groups of 20 and over, especially 40 and over, that the differences are of greater absolute magnitude and of high significance.

*A Treatise on the Puerperal Fever: Illustrated by Cases which Occurred in Leeds and its Vicinity in the Year 1809-12, William Hey, Esq., 1813. Quoted, page 151, in: The History, Pathology and Treatment of Puerperal Fever and Crural Phlebitis with an Introductory Essay by Charles D. Meigs, M.D., Philadelphia, 1842.

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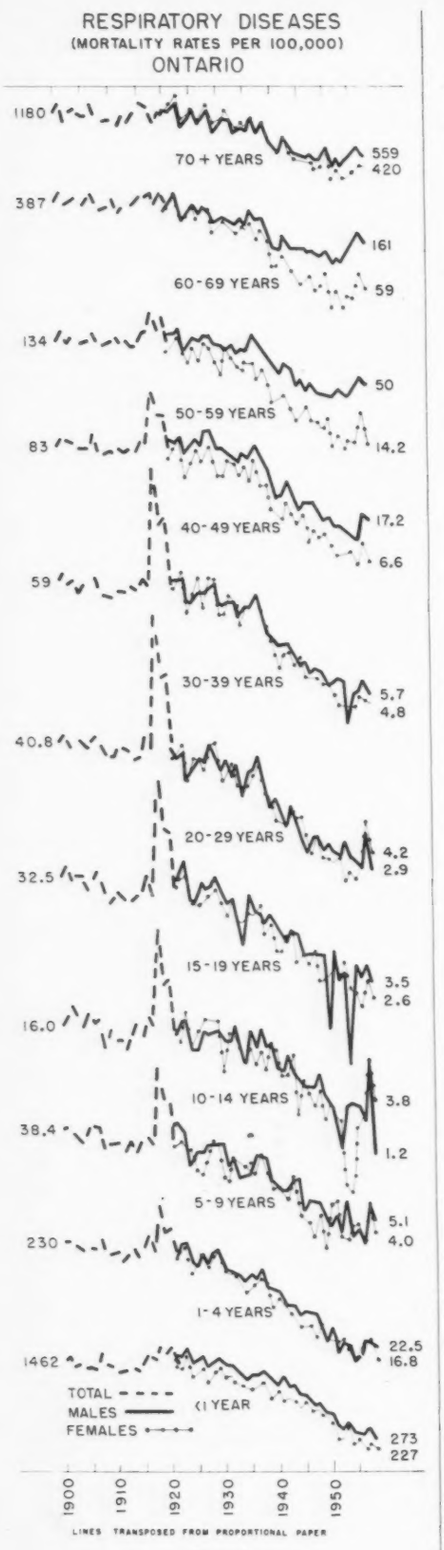
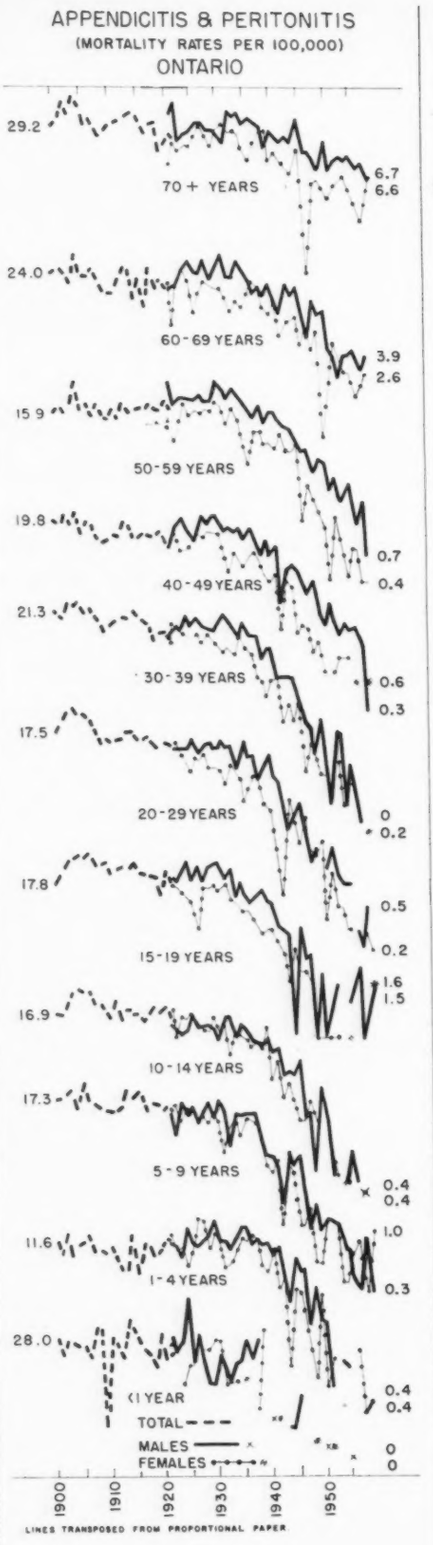


Fig. 3.



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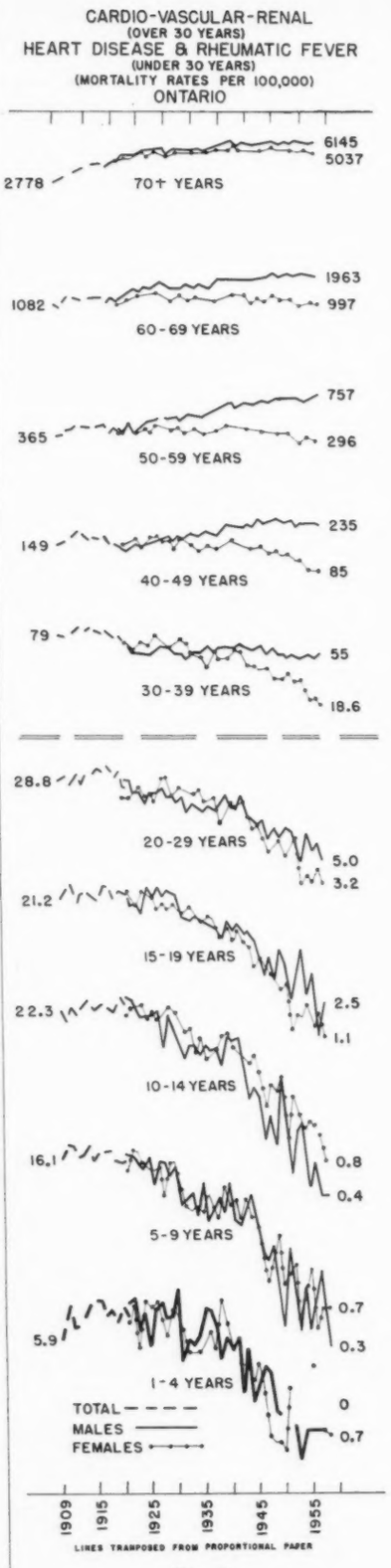

Fig. 5.

stillbirths and infant mortality. The consistent excess of mortality in the male, as noted in Fig. 1, defies explanation. Thus the record in vital statistics, though reflecting reasonably well the total of infant mortality, leaves questions unanswered and poses problems for investigation.

Mortality charged to the respiratory group, including influenza but not tuberculosis, is shown in Fig. 3. With the exception of the spikes of the 1918-20 influenza experience, the most striking features are the apparent lack of any definite sustained reduction in mortality until the late 1930's, and then, coinciding with the introduction and use of sulpha drugs and later of antibiotics, an abrupt decline in practically all age groups. The many treatments that were advocated and used previ-

ously do not appear to have improved the situation appreciably over the years. Now that effectual treatment is available, it is generally conceded that those earlier treatments were largely ineffectual in reducing mortality, though absolutely necessary for the relief of the patient — and the physician. But, like repeated emetics for puerperal septicæmia, they had their day and their popular acclaim. Another feature, perhaps more intriguing, is the faster rate of decline in the female than in the male in the 60-69 and 70+ age groups; in the 50-59 age group, although the proportionate decline was greater in females than in males, the absolute declines were nearly equal.

Appendicitis and peritonitis mortality is shown next (Fig. 4), because of some similarity to the respiratory mortality. The records show no assured or progressive decline until the late 1930's when, coinciding with the introduction of sulpha drugs and later of antibiotics, a fairly abrupt decline is recorded in practically all age groups. Here, as before, the response of the record, as shown by the abrupt decline, adds to the credibility of the figures. It is possible, of course, that other factors introduced about the same time as sulpha drugs may have played some part in the decline.

Recorded *heart disease mortality* is often and with good reason looked on as a hodge-podge containing almost anything. However, although that may be true and unavoidable for the extremes of life, the figures for other age groups may merit attention. Fig. 5 is a graph of the mortality charged to heart disease (non-congenital), rheumatic fever and chorea for the age groups 1-29 (inclusive). Little, if any, improvement is in evidence until about 1930; then there is a well-marked decline, abrupt, consistent in each age-group from 1-19, and reducing the rate for that age-group by nearly 50%. As there was no unusual publicity at that time (that meant none at all in the lay press), no change in diagnosis, certification or book-keeping, no new prophylaxis or treatment, and as the recorded reduction accords with clinical experience of morbidity, it appears to be real. It coincides with the decline in diphtheria morbidity and infection. This coincidence, considered with other relevant data, suggests a causal association. It suggests that a considerable part of the heart disease previously accepted as rheumatic was, in reality, caused by diphtheria infection, largely if not entirely unrecognized. The later decline coincides with the use of antibiotics. Thus, the records in vital statistics pose questions regarding heart disease in young life and provide a tentative lead for the study of it.

In persons over 30 or 40 years of age, overlapping and changes in diagnosis, certification and classification necessitate combining deaths charged to heart disease along with those charged to vascular lesions (including cerebral and cardiac), hypertension and nephritis, forming the cardio-vascular-renal group, as a basis for comparison. That mortality is also shown in Fig. 5. Here the most striking feature is the difference between the sexes. The recorded mortality in the male over 40 years of age increases sharply, while that in the female holds nearly level or declines. This difference between the trends in males and females immediately prompts the question of its reality and, if real, begs an explanation.

The mortality charged to tuberculosis is shown in Fig. 6. As John Graunt pointed out in 1662, if the old searcher, after her bitters, found "the dead corps . . . very lean and worn away", her certification as consumption would not be as accurate as that of a physician, but the error would be relatively small. It is less in these data. Of course, in young life, particularly infancy, and in old age, a much wider discrepancy between the record and reality is to be expected. The most striking feature of the record is the nearly uniform rate of decline over the years until the late 1940's when, with the advent of chemotherapy and antibiotics, a marked acceleration appears in all age groups. The decline previous to that, however, had already reduced some of the rates to only a fraction of what they were at the turn of the century. This earlier reduction has often been credited to the progressively greater efforts made to control tuberculosis. However, consideration of the fact that the rate of decline was just about as fast in the first decade of the century, when there were only 0.03 sanatorium beds per death, as it was in the 1935-45 decade, when there were 3+ beds per death, indicates that most of the credit belongs elsewhere. The lack of correlation between the unquestionably sound antituberculosis measures of that period and the recorded declines in mortality poses two questions, both fundamental to medicine. Firstly, why is there no clearly obvious correlation? Secondly, what other factor or factors determined the recorded declines? To these questions tentative partial answers have already been suggested. First, the number of spreaders segregated in relation to the actual but unknown number (perhaps of the order of 10, 20, 30 or more for every death) was too small for its effects to be obvious against the larger decline attributable to other factors.[2] Second, one factor contributing to the recorded decline could be a greater proportional increase in the non-tuberculous population than in the tuberculous;[3] the influence of this factor would become manifest following the great declines in mortality in young life from other causes. But these are only tentative *partial* explanations which require checking and re-checking before they can be accepted with assurance.

Another strong feature is the much slower decline in male than in female mortality in the age groups 40 and over. In fact, in the male over 50 years of age the record shows hardly any decline (previous to the late 1940's), while in the female the decline was almost as fast and nearly of the same extent, proportionately, as in the younger

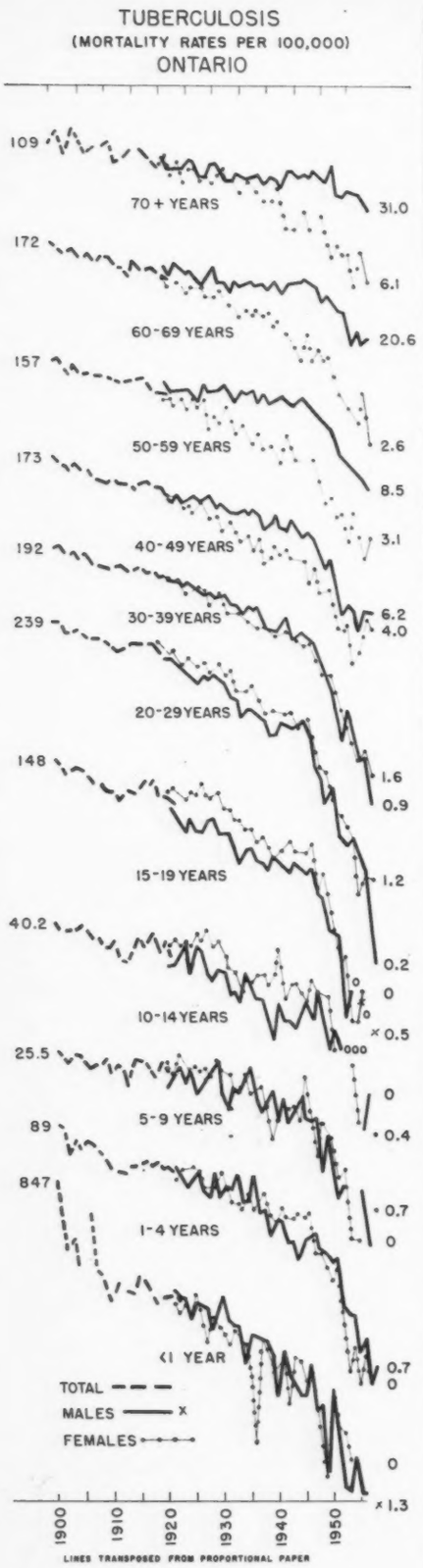

Fig. 6.

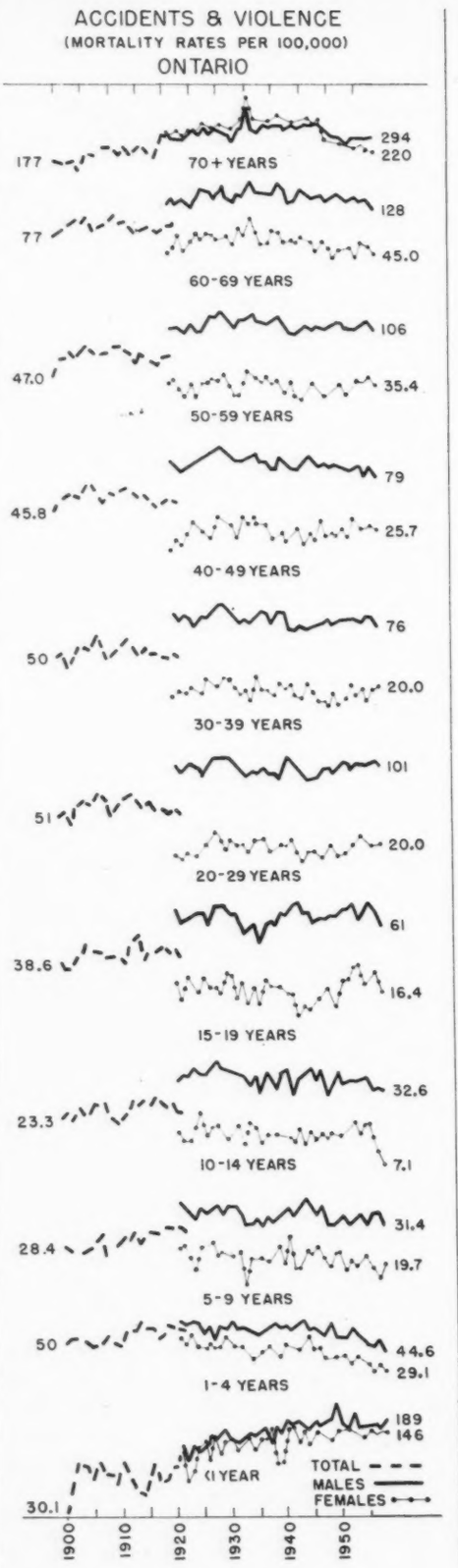

Fig. 7.

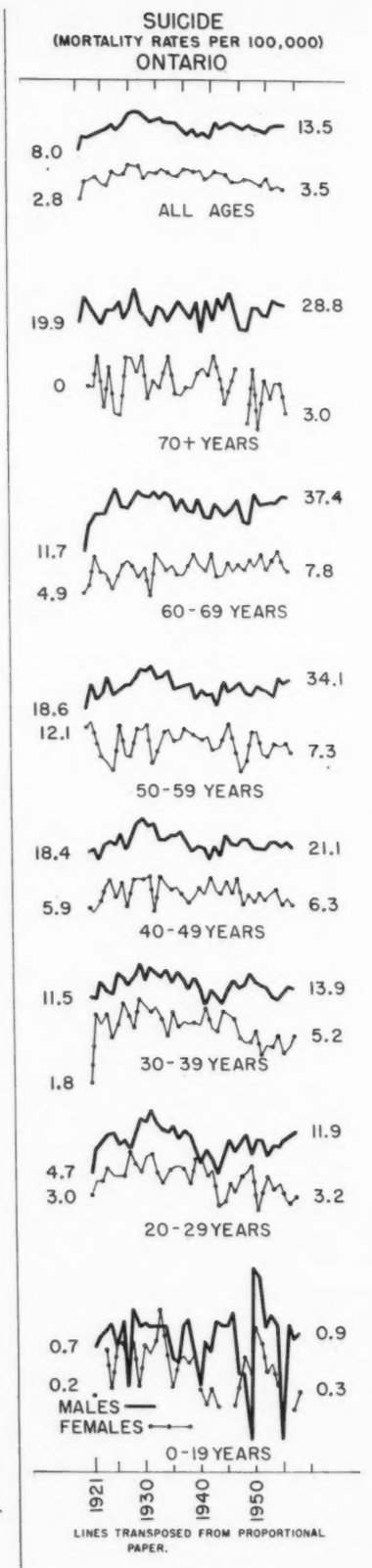

Fig. 8.

age groups. It is possible that part of the difference between the male and female mortality trends may be attributable to greater industrial exposure of the male. But what else?

Mortality charged to accidents and violence is shown in Fig. 7. It will be noted that the records for young life and old life show a definite increase, but, for other age groups, surprisingly little change. The relative stability of the rates suggests comparability over the years, but the great changes in traffic etc. call for further evidence in that regard. In the meantime, it will be noted that the

TABLE I.—ACCIDENTS AND VIOLENCE—ONTARIO, 1955

DEATHS BY AGE AND SEX

Age	*Motor vehicle*	*Other transport*	*Falls*	*Fire and explosion*	*Drowning*	*Suicide*	*Other*	*Total*
Males								
<1	4	—	1	4	1	—	103	113
1–4	42	1	4	19	32	—	33	129
5–9	44	5	5	5	26	—	16	101
10–14	26	8	4	—	30	1	17	86
15–19	74	12	2	—	35	—	21	144
20–29	185	47	13	8	52	33	67	405
30–39	109	39	11	9	23	42	67	300
40–49	104	28	22	9	13	78	62	316
50–59	89	28	26	8	11	60	48	270
60–69	72	15	48	5	15	59	52	266
70+	81	9	197	15	10	29	31	372
Total	830	192	333	82	248	302	533	2502
Females								
<1	5	—	2	8	—	—	82	97
1–4	25	—	4	20	15	—	18	82
5–9	32	3	2	4	6	—	4	51
10–14	15	—	2	4	8	—	3	32
15–19	25	—	—	—	2	—	3	30
20–29	36	5	2	9	5	16	17	90
30–39	30	2	2	7	3	21	16	81
40–49	30	3	3	5	4	27	12	84
50–59	36	1	7	3	5	23	17	92
60–69	28	—	24	2	6	18	3	81
70+	37	—	278	23	—	6	26	370
Total	299	14	326	85	54	111	201	1090

tendency to stability is common to both sexes in spite of the wide difference between them in the magnitude of the rates.

The distribution of types of accidents, shown in Table I, is representative of recent years. Here it will be particularly noted that in some of the most important age-sex groups of life, the deaths *charged* to suicide approximate one-half to three-quarters or more of those *charged* to motor traffic. If all deaths from suicide were recorded as such, it is quite possible that their numbers in some of these groups would equal or exceed those attributable to motor traffic. The trends of suicide as recorded are shown in Fig. 8. The rates hold fairly steady from year to year with, possibly, an increase during the depression of the 1930's and a decrease during the war. Again, the maintenance of approximate levels in this recorded mortality suggests, perhaps credibly, some reasonable degree of comparability throughout the period. If new forms of therapy – shock, psycho-analysis, tranquillizers – have achieved any appreciable reduction in suicide, it is not convincingly apparent in this record. Though unquestionably far from accurate, and properly so, the record indicates one of the most important, persistent, and unsolved problems.

The record of *breast cancer mortality* has been presented so often that it will not be repeated here. Considered along with other pertinent data it revealed the failure of extensive efforts to control that mortality, and pointed to the limitations of microscopy and to the fallacy in comparing survival rates. (Hey's caution, as noted earlier, might well be applied to breast cancer—and to what can it not be applied?) The records of mortality from *cancer of internal sites* do not provide reliable bases for comparison. The records for *all cancer* (*combined*), though free from the defects of site specification, show some inconsistencies from place to place which interfere with interpretation. However, the absence of recorded reductions at all commensurate or corresponding with control efforts points tentatively, but with some degree of assurance, to failure of these efforts to achieve the results expected. Otherwise the data leave considerable uncertainty.

Many more examples might be cited indicating how our records in vital statistics approach or fail to approach Graunt's concept of their function. For instance, the record of diphtheria morbidity showed clearly the failure of isolation and quarantine to control the disease; and both the morbidity and mortality records provide indubitable evidence of the efficacy of toxoid. The records of scarlet fever morbidity also show the failure of isolation and quarantine, while the great decline in mortality before the use of chemotherapy and antibiotics is still quite unexplained. The practically simultaneous and equal declines over many years in measles and whooping-cough mortalities* suggest the dependence of both on some host factor. The record of typhoid fever mortality well demonstrates control through sanitation.

Enough has been presented or cited to show that although the records fall short of fully achieving

*It is unnecessary to state that the records of cases serve only to indicate periods, cycles, of high prevalence; less than half being reported, they do not indicate or even suggest the extent of the problem.

John Graunt's ideal, they do provide much fundamental information of the state and changes in the state of health and disease.

SUMMARY AND CONCLUSIONS

In 1759, Heberden edited a large volume devoted to vital statistics. He thus demonstrated not only the lively interest of a great physician in even the scant records of that time, but also the benefit to be derived from them in the study of medicine.

In order to permit some appraisal of the value of our officially recorded vital statistics, examples from Ontario data are presented or cited. A varying degree of error, uncertainty and change in diagnosis, certification and compilation is inevitable. Nevertheless, when examined in retrospect and with consideration of their many vagaries, the records appear, for the most part, to have reflected reasonably, though necessarily without precision, the gains from indubitably effectual measures and the lack of benefit from ineffectual measures. They also show changes (increases and decreases) and sex and age differences for which adequate explanations are wanting. Providing information not otherwise available and exposing gaps and misconceptions in our understanding, they would seem to be indispensable to the study and pursuit of medicine. Hence, from the records of last century, Wm. Farr: "Death is not deceived by sham defences." Hence, too, in 1959, W. M. Arnott, William Withering Professor of Medicine, University of Birmingham, in presenting the Proceedings of the First World Conference on Medical Education, 1955, to the Second World Conference: "A doctor must also be familiar with conventional methods of expressing vital statistics. Much of the opposition to statistics in medicine springs from its power to unmask the falsehood which underlies the careless observation, muddled thinking and pompous assertion which still bulks so largely in current belief."[4]

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Special Article

MODERN TREATMENT FOR MENTAL ILLNESS*

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PART I OF TWO PARTS

FOR MANY years, lip service has been given to the principle that the mentally ill are sick people and should be treated as such. In spite of this, there is little indication of any widespread or real acceptance of this statement. There is hardly a measure available which does not confirm the terrific differences which exist in the attitudes of the community and of public authorities towards mental illness as compared with existing attitudes towards physical illness. Possibly this lack of change in fundamental attitudes is due to the failure of professional workers in the mental health field to state clearly the principles which underlie our belief that more adequate services should be provided and that the mentally ill should be treated as sick people. It is also possible that public authorities and the community have such guilt about their attitudes towards the mentally ill and the inadequate treatment services which they provide that they are like the ostrich which hides its head in the sand. They know that the problem exists, but by denying it they no longer see it. I sometimes feel that they hope to wake up some morning and find it gone. If they feel this way, they will be disappointed, as the problem will be with us until adequate services of all types are provided to deal with it. I hope that my comments will help to clarify some of the issues which exist in this field and that they may in some small way contribute to the development of the services so badly needed if the mentally ill in our communities are to receive adequate treatment.

A PATIENT'S EXPERIENCE

In order to make my points more effectively, I would like to speak subjectively as though I were a patient. Some day I hope that patients will write freely about their illnesses, but meanwhile I will do my best to interpret their feelings as I understand them:

I am one of some seventy-odd thousand patients who are receiving treatment today in Canadian mental hospitals. I am one of the twenty-five thousand admitted for treatment each year. In addition there are many other thousands receiving treatment in doctors' offices, in out-patient clinics, in day and night hospitals and in the psychiatric units of general hospitals. I am told that one in every two hundred and fifty Canadians is admitted to a mental hospital each year and that one in every sixteen Canadians born today will spend some part of his or her life in a mental hospital. Perhaps there is comfort in numbers but these facts have not helped me during my illness!

I am not a stupid or defective person. I am not a no-good. I have a good education and prior to my illness I was working and supporting my family. I want to tell you just a few things about my illness in the hope that you will understand some of my present feelings.

When I first began to feel different, I discussed it with my employer and my wife. They both thought I was in a rut—I shouldn't work so hard—

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*An address to the Canadian Mental Health Association, Ottawa Branch, May 5, 1960.
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I should forget it and pull myself together. That didn't help much, so I saw my family doctor—he gave me a thorough examination and told me there was nothing wrong with me. I needed a holiday! After a few weeks away from home and work I did feel a bit better but it just didn't last. And then suddenly one day I heard a voice talking to me but I knew there was no one in the room with me. I knew it wasn't real and yet I could hear it plainly. Can you imagine how frightened I was? How would you feel if you began to hear a voice telling you about your wife's infidelity? I thought I was losing my grip. Was I going crazy? If I were, they would put me away! I would lose my job! I would no longer be able to support my wife and family! My life would be finished! So I decided to say nothing about this voice to anyone.

Then I found it more and more difficult to sleep, to eat, and to continue my normal activities. I knew that my wife noticed these things because I found that she was watching me more and more. At the office I also felt that people were watching me. Was somebody trying to get my job? I would come into a room at home or in the office and the conversation would cease. Were they talking about me? What were they saying? Then one day I could no longer control myself. I don't really know how it started—I remember it all but not too clearly. I know that I was shouting, my language was not very good and I was hitting people. Then they tried to hold me down. I was frightened, I couldn't stand it so I fought them off! When I was exhausted and so were they—they left me alone. I wondered what would happen to me. I'm not sure that I really cared. Everything was over—I didn't feel like myself—I was frightened!

Then my wife and our doctor came into the room. After the usual pleasantries, my doctor said, "I'm afraid you're mentally ill. I think you should see a psychiatrist." I wondered why he was "afraid." When I was physically ill, he was not afraid! This must really be something different! After a while a psychiatrist came to see me and we talked for a long time. He was obviously afraid—the way he sat, the way he talked to me—did he think I was going to attack him? Then he became very apologetic and said that in view of the nature of my illness he would have to commit me to a mental hospital. If I was sick, why was he so apologetic? What did he mean by commit me? When doctors say I am physically ill, they are very direct—you need treatment—you should go to a hospital for treatment. If I were sick, why did he not talk that way to me now? Can you imagine how confused and frightened I was? Then the psychiatrist talked to my wife and she came in to see me. When I saw her face I thought I was completely finished. This was really the end! She was so frightened also, so confused and so sad—no, not sad but numbed by it all. Would I go to the mental hospital, she asked. After much discussion I agreed to go. Then they said I would have to wait for the papers to be approved. Not wait for a bed as in other hospitals! No, wait for papers to be approved! What was this all about? What papers? Then I began to think about it—they were going to take away my freedom. I decided that I was not that sick. I left the house and wandered—finally I went to a bar—I drank and drank—then I passed out and was picked up by the police. After they had identified me and called my home, they took me to a mental hospital. (By now no doubt you are saying that this is just an exceptional case. No, it is not an exceptional case—a little exaggerated perhaps but too often true even in 1960.)

And what happened next? At first I was resentful, confused and frightened. I wouldn't let the staff of the hospital help me. They gave me needles and almost in spite of myself I began to feel better. I slowly began to realize that the doctors, the nurses, the attendants, the occupational therapists and all the rest of the staff were not afraid of me. They were trying to help me. They were dedicated to this task. And they did help me. I did get better and return home. Did I get my job back? No. I remember the day I went back to my office. Everyone looked at me. They said they were glad to see me, but I knew they were looking at me to see if I were different. Could I possibly be better? Would it happen again? They were very sorry but they had filled my job. I should keep in touch with them and they would be glad to have me back when there was an opening. I was pretty depressed by all of this but my wife was most helpful. The doctors had discussed my case with her and she was aware of the difficulties which would arise. I went to the After Care Clinic regularly, and finally I got another job. Will I stay well? I don't know. I'm doing as the doctors say, and if I get sick again I will ask for treatment. I imagine it's like a person with diabetes or heart disease—if one recovers from the attack and looks after oneself one can hope to stay reasonably well but it can always happen again.

SOME SUGGESTIONS

From my experience, I can make some suggestions which I believe would help others who get sick:

1. When we say that people are mentally ill we must really mean it. When I became ill I was frightened. The way people talked to me only frightened me the more and I resisted. We must learn not just to say that it is an illness but we must behave as though it were.

2. Mental hospitals must be like other hospitals. Patients must be admitted for treatment—not committed for custody. I know that some patients are not cooperative or responsible and that special laws are necessary for them, but all patients should not be subjected to that kind of treatment. Experience in Great Britain shows that some 90% or more can be admitted and treated in mental hospitals as are patients in other hospitals.

3. Special facilities must be provided for the retarded, for the epileptic, for the aged, for the psychopath and for the criminal. Space does not permit me to tell you about this in detail, but the presence of these other patients made it very difficult for me and for the doctors who treated me. These special groups of patients—treated in their own units—have, according to experience elsewhere, done much better than when they are placed in facilities with patients like myself.

4. All of us must get to know about psychiatry and psychiatric treatment facilities. We must talk with the staff and visit the treatment centres. Then when we are sick we will turn to them for help rather than being afraid or feeling that they are punishing us.

5. We must provide money for research. I was suffering from schizophrenia. Each year some ten to fifteen thousand Canadians develop this condition and almost 50% of the patients in mental hospitals are suffering from this one illness. Not enough is known about it. In a bad epidemic year some several thousand people developed polio—millions were spent on polio research—only a few hundred thousand is spent each year on psychiatric research.

And now I leave my patient role. I know that the Canadian Mental Health Association, Service Clubs and many others are trying to help us. For this the patients, the staff and the authorities responsible for the operation of the hospitals, clinics and other services are most grateful. I hope that I have by now convinced you that attitudes are as important as deeds.

GENERAL PRACTICE

THE USE AND ABUSE OF DIGITALIS*

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WILLIAM WITHERING,[1] having identified digitalis, reported on its value in the treatment of œdema in 1785. He advocated prescribing it in doses sufficient to cause mild toxic symptoms; as each individual's tolerance differed from that of any other, dosage had to be individualized. Until a stable preparation of digitalis was provided at about the beginning of this century the doctor dealt with two major unknowns in calculating the dose to be prescribed, namely, the unknowable precise dose of digitalis in the unstable tincture and even more unpredictable infusion, and secondly the nature of the patient's tolerance for the drug. Near the turn of the century certain glycosides endowed with strong digitalis properties, extracted from digitalis purpurea, provided a stable drug whose potency was measured by biological tests, the frog unit or the cat unit, based on the amount required to arrest the heart of a frog or of a cat. Shortly after this achievement there followed the compressed tablet of powdered digitalis leaf whose strength remained predictable and measurable. These advances in pharmacy resolved one of the difficulties; and the other remains in spite of the promising formula suggested by Eggleston,[2] whose work in 1915 indicated that the optimum dose for each individual varies with body weight. Too many exceptions to this rule have appeared and we must use it with enough caution to avoid serious errors of under- or over-dosage.

Because no satisfactory therapeutic tests exist, the therapeutic effect in each case remains the ultimate measure of adequate or inadequate dosage in each case. Digitalis is a cardiac poison; witness the frog unit or the cat unit by which its strength is calibrated according to the amount required to arrest permanently the animal's heart. A grain and a half of powdered leaf or about 0.1 mg. of digitoxin is one cat unit. Necrotic myocardial lesions have been demonstrated to result from digitalis toxins in the hearts of cats.[3] These lesions resemble those produced by continuous acetylcholine infusion or prolonged vagal stimulation, and these experiments have suggested that coronary vasoconstriction with consequent ischæmia and necrosis cause them. Administration of adequate doses of a vagus inhibitor, atropine, or of a coronary vasodilator, theophylline, prevents the production of such lesions in animals. Whether similar effects occur in man remains unknown, but it must be considered as possible and perhaps probable.

Adding to these considerations the fact that the therapeutic dose of digitalis and the toxic dose are separated by a small difference, we must become acutely conscious of the possibility of doing harm when we intend to do good by increasing the dose of digitalis. The physician knows that anorexia, nausea and vomiting signal the toxic state of overdigitalization. But often the patient first ascribes these symptoms to other causes, such as the illness itself or some error in diet, and continues to take his daily dose of digitalis which now acts more as a poison than as a medicine. Fortunately, once the true nature of the gastric symptoms is recognized, the mere discontinuation of the drug brings relief of symptoms in a few days. In recent years a close relationship between depletion of intracellular potassium and digitalis intoxication has been found and has led to the logical use of potassium chloride as an antidote which quite frequently proves effective.[4] Thus when extrasystoles or paroxysmal atrial tachycardia or nodal tachycardia are due to digitalis toxicity, potassium chloride restores normal rhythm.

Perhaps the most dramatic beneficial effects of digitalis appear under the following clinical conditions. In acute left ventricular failure with pulmonary œdema due to atrial fibrillation in a person with heart disease of such degree that the pulse deficit continuing for a variable period of time, hours to weeks, triggers off the acute conditions. Digitalis slows the heart rate, abolishes the pulse deficit and, together with sedatives and diuretics, may be life-saving in its rapid effect, when given orally or parenterally in adequate amount, i.e. one cat unit for each 10 lb. of body weight, in a single dose,

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*Delivered at a Panel Discussion, Toronto Branch of the College of General Practice Meeting, March 30, 1960, at the Doctor's Hospital.

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plus an adequate maintenance dose that varies between one and three cat units per day. In these patients the end point which guides the physician in determining the dose of digitalis is provided by the heart rate and the elimination of the pulse deficit. In the absence of toxic factors, such as febrile illness, uræmia, hyperthyroidism and hyperkalæmia, the heart rate reaches the vicinity of 80 per minute within the first 24 to 48 hours and the patient's condition improves admirably. But digitalis fails to reduce the heart rate adequately in the presence of a toxic state, and the physician, thinking the dose inadequate, adds more and more. This may induce objective signs of digitalis intoxication, such as frequent extrasystoles with periods of coupled rhythm. Thus warned, the therapist searches for the toxin which impairs the effectiveness of the digitalis and also removes insult from injury, by stopping the drug until signs of its toxic effects disappear. On the other hand, even in the absence of one of these toxic states but when the patient has sinus rhythm, overdigitalization develops, often surreptitiously, as the therapist follows the policy of increasing the dose of digitalis, hoping the heart rate will reach a normal level. Digitalis too frequently behaves as though it did not read any authoritative books on its pharmacology and therapeutics. It does not slow the rate, it does not produce frequent extrasystoles, it does not cause vomiting, and it does not affect the shape of S-T segments and T waves of the electrocardiogram. Then suddenly paroxysmal ventricular tachycardia rears its ugly head and threatens death by ventricular fibrillation. When death does occur, postmortem examination does not find evidence to indicate whether digitalis played a significant role in the fatal termination of the illness. But the physician knowns that, especially in the presence of myocardial disease in animals and in humans, digitalis produces these arrhythmias. When he deals with a stubborn case of persistent tachycardia, his reflections lead him to recall these facts and to avoid overdigitalization.

Another surreptitious development of overdigitalization merits mention. As digitalis lodges in about equal concentration in all cells of the body, production of profuse diuresis by a mercurial or other such drug mobilizes digitalis from tissues into the blood stream, and leads to its increased excretion in the urine, and also to an additional digitalis effect on the myocardium during a disrupted electrolyte balance with potassium depletion of the cells;[4] all this adds up to a dangerous toxic state. The addition of increasing doses of digitalis from within and from without may prove lethal. Before one prescribes additional digitalis to increase the dose one must think of these dangers ahead. Who knows how often digitalis given to lengthen life and relieve symptoms actually shortens life significantly? I think this happens more often than physicians with excessive faith in the wonders of digitalis therapy would like to admit. The brilliant beneficial results of phlebotomy in cases of acute pulmonary œdema are witnessed nowadays as in the past. But these led physicians in ancient and in olden days to believe that blood letting would also help all other conditions which caused troubled breathing and indeed almost all diseases of mankind. Thus, as recently as less than a hundred years ago persons with an illness for which patients now receive blood tranfusions were, on recommendation by the highest authorities of the medical profession, literally bled to death in stubborn but blind application of phlebotomy as an ancient and honourable therapeutic procedure in which people placed their faith.

At this point, the temptation cannot be resisted to quote a sentence written to his parents by Oliver Wendell Holmes when at the age of 24 he was studying medicine in Paris. The letter is dated August 13, 1833, and the sentence reads, "However, I have more fully learned three principles since I have been in Paris: not to take authority when I can have facts; not to guess when I can know; not to think a man must take a physic because he is sick."

We must avoid a blind faith in bigger and bigger doses of digitalis to slow the heart rate, especially when a good indicator such as atrial fibrillation is not present to guide us. Indeed, as digitalis can produce a wide range of arrhythmias, including paroxysmal atrial, nodal or ventricular tachycardia, and fatal ventricular fibrillation, we must bear in mind the eloquent lines spoken by Father Lawrence in Shakespeare's "Romeo and Juliet":

> "Within the infant rind of this small flower
> Poison hath residence and medicine, power."

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GPs MAKE UP 30% OF HOSPITAL STAFFS

General practitioners make up 30% of the staffs of 135 hospitals surveyed by the California Academy of General Practice.

This is one of several findings of the first comprehensive study of the status of general practice in the state's hospitals. Other findings included:

One of three members on hospital executive committees is in general practice.

One out of four surgical committee members is a GP.

Thirty per cent of the GPs on the staffs have major obstetrical privileges.

Almost 40% of the GPs have major surgical privileges.

Specific programs to determine a new member's competence are operated by 75% of the hospitals.

Privileges are not dependent upon board certification in 90% of the hospitals.

Sixty per cent of the hospitals have a department of general practice.—*The A.M.A. News*: August 8, 1960.

Case Reports

THROMBOCYTOPENIC PURPURA COMPLICATING INFECTIOUS MONONUCLEOSIS*

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BEFORE 1934 only five cases had been reported of thrombocytopenic purpura as a complication of infectious mononucleosis. Since then this complication has been recognized more frequently and probably occurs in approximately 1% of cases.[1-4] Thrombocytopenia alone has been reported even more frequently since 1952, because of the increasing use of the platelet count as part of the investigation in this disease, and the realization that thrombocytopenia is a complication of infectious mononucleosis.

Absence of anæmia at the onset of the purpuric phase is a constant finding in infectious mononucleosis and will help to exclude acute leukæmia.[5]

Secondary thrombocytopenia has been variously attributed to peripheral platelet deficiency,[3] megakaryocyte deficiency,[5] hypersplenism,[6] sulphonamide sensitivity,[7] primary capillary lesion,[8] and circulating platelet agglutinins.[9] In our case there was no megakaryocyte deficiency or sulphonamide sensitivity, and the capillary fragility test was normal. Circulating platelet agglutinins were not estimated.

A 21-year-old man was admitted to the Hamilton General Hospital on October 27, 1959. Two weeks before admission, he had an acute pharyngitis and temperature elevation to 105° F. Cervical lymph nodes were enlarged and sensitive, as were also the inguinal and axillary lymph nodes. The spleen was grossly enlarged, the lower border extending about four inches below the left costal margin. The Paul-Bunnell agglutination test was reported as negative, but a smear of the peripheral blood apparently revealed lymphocytes typical of infectious mononucleosis. His condition improved rapidly and he was permitted to travel from a distant university to his home town near Hamilton. Shortly after arrival at his residence he again developed a severe acute pharyngitis. He became extremely lethargic, and on several occasions had melæna and hæmaturia and, on one occasion, vomited a considerable amount of blood. A few areas of ecchymosis developed on his extremities and he had a consistently elevated temperature, to approximately 102° F. According to his family physician, the blood platelets numbered 34,000/c.mm. of blood. He was transferred to the Hamilton General Hospital for further investigation and treatment.

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The patient was a well nourished, well-developed young man, extremely listless, and appearing quite pallid, but rational. Oral temperature was 102° F. Lymph nodes, measuring 2-3 cm. in diameter, were easily palpable in the posterior triangle of the neck and in the occipital region, as well as in the axillæ and groin. Large petechiæ were observed on the feet, legs and extensor surfaces of the forearms, as well as on the buccal mucosa and the posterior region of the soft palate. Lung sounds were clear. Heart tones were of normal quality; a very faint, soft, systolic bruit was heard at the apex. The liver was enlarged about 3 cm. below the right costal margin, and was moderately sensitive to palpation. The remainder of the examination was non-contributory.

Erythrocytes numbered 4,900,000 cells per c.mm. of blood and the leukocytes 30,400 cells per c.mm., with polymorphonuclear leukocytes 10%, lymphocytes 90%, and platelets 25,000 cells per c.mm. Prothrombin time, bleeding time and clotting time were normal. The clot retraction time was also within normal limits. Sodium and potassium studies of the blood were reported as normal. Blood urea nitrogen value was 31 mg. %. Paul-Bunnell agglutination test was 1:7168.

A few hours after admission to hospital the patient developed massive gastro-intestinal and renal bleeding. The hæmoglobin level fell to 6.8 g. and the platelets to 20,000 cells per c.mm. This necessitated repeated transfusions with fresh whole blood. Dexamethasone, 12 mg. daily, was administreed over the first three days in an attempt to raise the blood platelet level. The patient's condition continued to deteriorate, however, and on the fourth hospital day dexamethasone was discontinued and intravenous hydrocortisone administered in a dosage of 100 mg. every six hours. The platelet count gradually increased to 80,000 cells per c.mm. by the seventh hospital day. During this period he had received four and one-half litres of fresh whole blood. Steroid therapy was decreased gradually, and discontinued on the 35th hospital day, at which time the platelet count was 130,000 cells per c.mm.

On the 38th hospital day, the patient developed an abscess on the left arm; his temperature rose to 104° F., and he became mildly delirious. The leukocyte count fell from 7000 cells to 2300/c.mm., but the platelets remained at approximately 130,000/c.mm. throughout this eight-day period. The infective process responded satisfactorily to antibiotic therapy, and over a period of the next few days, the leukocytes increased to 7000 cells per c.mm. The patient was sent home from hospital on the 63rd hospital day.

The patient was again seen approximately two weeks after discharge, at which time the platelet count was 250,000/c.mm., and the leukocyte count was within normal range. He was feeling quite well.

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EBSTEIN'S ANOMALY: DISCOVERED IN A 75-YEAR-OLD SUBJECT IN THE DISSECTING LABORATORY

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EBSTEIN,[1] in 1866, described a congenitally abnormal heart, in which the tricuspid valve was attached below its normal site, thus reducing the functioning right ventricle. About 90 cases are now reported in the literature.[2] A characteristic syndrome is described,[2-7] leading to the diagnosis during life. Many patients are disabled and do not live past the third decade.[4, 6] However, there have been cases in which a normal life was possible and an advanced age was attained.[3, 6] This is further illustrated by the following report of a 75-year-old man in whom the condition was not suspected.

C.H., 73 years old, was admitted to the Edmonton General Hospital in August 1956, complaining of cough, sputum and shortness of breath and increasing disability over the preceding few months. He had been told that he had congestion of the lungs. Past illnesses included repair of a varicocœle in 1920 and pneumonia in 1930 and on three occasions between 1951 and 1955. A heart attack was reported in 1949, although no infarct was proved.

His personal history is significant in view of subsequent findings pertaining to his heart. He was always very active and had been a lumberjack working on log booms during his youth. He eventually formed and managed his own business and retired in 1950. He was never cyanotic or short of breath until he was over 50 years of age, when he was forced to outrun an irate female bear. This effort seemed to tax his reserve, because, from that time, he was afflicted with episodes of shortness of breath and repeated bouts of bronchitis and pneumonia.

He was alert and co-operative, and weighed 145 lb. His chest appeared emphysematous and there were a few rales in the lung bases. The heart sounds were soft and no murmurs were heard. The blood pressure was 124/80 mm. Hg and the pulse was 84 beats per minute. The rhythm was irregularly irregular. Respiratory rate was 24 per minute. The left testicle was absent. The remainder of the physical examination was essentially negative.

Laboratory results were not significant. Tubercle bacilli were not present in the sputum. Hæmoglobin value was 14.4 g. The white blood count was 8400, and the differential count was normal. Urine was normal. Bronchoscopy revealed a severe tracheobronchitis, but a biopsy of the bronchial tree showed only inflammatory changes. The electrocardiogram showed auricular fibrillation with ventricular extrasystoles; also detected were coronary insufficiency and a possible digitalis effect. From the chest radiograph the heart measured 12.5 cm. and the chest 30.3 cm. There was an old flattening of the left diaphragm. The lung fields were emphysematous, but no active process was seen. A bronchogram showed a well-outlined tree, and was in keeping with that of emphysema. Diagnosis was made of pulmonary emphysema, bilateral bronchiectasis and coronary insufficiency.

The patient responded well to supportive measures, including postural drainage, and use of Alevaire, iodides and antibiotics. He was sent home in satisfactory condition.

He was readmitted in April 1957, September 1957, May 1958, October 1958 and April 1959. On each admission the findings were essentially the same as outlined above. After two to three weeks in hospital he would be sent home and remain there for a few months. Oxygen was available at his home. On each admission, chest radiographs were taken and no changes were reported. Electrocardiograms were taken in October 1958 and May 1959; no significant change from the one in 1956 was noted.

He was readmitted in May 1959, for investigation of dark urine and urinary frequency. A malignant-appearing bladder tumour was found on investigation. Operation was proposed but during administration of caudal anæsthesia cardiac arrest occurred and cardiac massage was performed. He improved, regained consciousness and was fully alert for several hours, but 24 hours after the initial arrest his condition deteriorated and he died. At his request in his will, the body was delivered to the Department of Anatomy of the University of Alberta.

During dissection, the heart was found to be abnormal. Overall dimensions were greater than average. The distance from base to apex measured 14 cm. The greatest transverse diameter was 11 cm. and at this level the anteroposterior diameter was 6 cm. The following description is illustrated by reference to Fig. 1.

The right atrium (R.A.) appeared thin-walled and greatly dilated. Opened, the right side of the heart revealed an abnormal tricuspid valve. The anterior cusp (A.) appeared to be normally attached to the annulus fibrosus and was connected to well-developed papillary muscles by normal chordæ tendineæ. From the anterior end of the cusp several chordæ were attached to the septal ventricular wall. The septal cusp (S.) was narrow and the attachment appeared to be displaced towards the apex and the anterior wall of the outflow tract. Several small chordæ connected the margin to the ventricular wall and the moderator band. A rudimentary papillary muscle was connected to the posterior end of the cusp. The posterior cusp (P.) was a small triangular leaflet bridging the gap between the anterior and septal cusps. Tiny chordæ connected its margin to two rudimentary papillary muscles. The tricuspid orifice measured 13 cm. in circumference.

The deformity of the tricuspid valve resulted in the formation of a large right-sided receiving chamber, formed in part by the true right atrium (R.A.) and, as in a typical Ebstein anomaly,[1] in part by a portion of the right ventricle which is normally distal to the valve (the J-shaped area marked by parallel lines between S. and X-X, plus the bare area between P. and X-X). The right atrium received the venæ cavæ (superior and inferior venæ cavæ) and the coronary sinus (C.S.). Its walls were 0.15 cm. thick and greatly distended. The functioning right ventricle (R.V.) below the valve consisted chiefly of the outflow tract (O.T.). The wall was 0.45 cm. thick at the annulus fibrosus and 0.2 cm. at the apex. The outflow tract led to a normal pulmonary artery guarded by normal leaflets.

No abnormalities were seen in the left side of the heart. The coronary arteries were patent. The ductus

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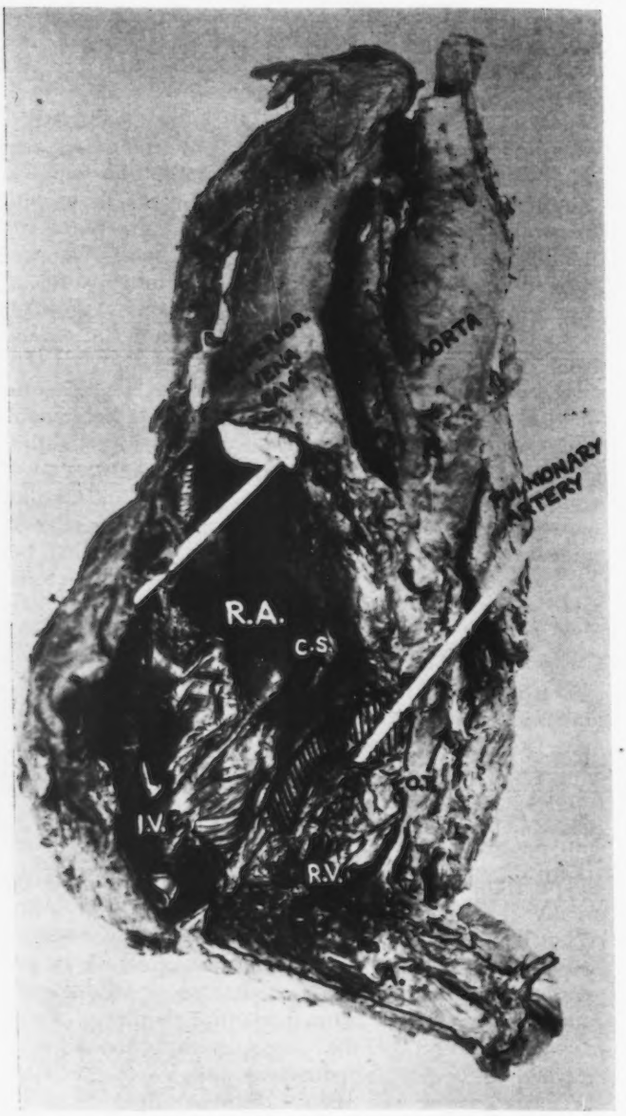

Fig. 1.—Ebstein's anomaly—right heart. R.A.—greatly dilated right atrium; C.S.—coronary sinus opening; I.V.C. —inferior vena cava; X-X—annulus fibrous; A., P. and S. —anterior, posterior and septal cusps of the tricuspid valve. The margin of A. is attached normally to the cut edge of the annulus fibrosus. The J-shaped area shown in parallel lines illustrates the apical displacement of the attachment of the septal cusp. The bare area between P. and X-X illustrates the apical displacement of the attachment of the posterior cusp. R.V.—functioning right ventricle; O.T.—outflow tract leading to pulmonary artery.

arteriosus was closed. There were no atrial or ventricular septal defects. The thickness of the left atrial wall was 0.15 cm. and of the left ventricular wall, 0.7 cm. The abnormal tricuspid valve appeared to be functional and competent.

The lungs showed gross changes of bronchiectasis and emphysema. A fungating necrotic tumour mass 2 cm. in diameter was found attached to the left lateral wall of the bladder. The left testicle was absent. The remainder of the necropsy findings were normal.

DISCUSSION

It is felt that this case is worthy of note because it illustrates the following points:

1. The heart has great compensatory powers.

2. The Ebstein anomaly does not necessarily have a grave prognosis, and

3. It is possible to have the Ebstein anomaly without displaying the characteristic clinical picture.

Engel *et al.*,[5] in 1950, first suggested that diagnosis of Ebstein's anomaly was possible during life. Medd *et al.*[6] in 1954 reviewed 26 cases since 1948, and described a clinical picture characteristic of this anomaly. Brown *et al.*[7] and Kilby *et al.*,[4] in 1956, added to the series.

The most characteristic clinical features of Ebstein's anomaly are:

Symptoms.—Breathlessness on exertion, cyanosis and palpitation are common.

Signs.—Heart sounds are quiet and are associated with a systolic murmur and sometimes also with a diastolic murmur. Often gallop rhythm is present. Arrhythmias are sometimes present and may be manifested as paroxysmal tachycardia or auricular fibrillation.

Laboratory findings.—Radiography shows globular enlargement of the heart and abnormally clear lung fields. Electrocardiography shows evidence of delayed conduction with peaked P waves and a right bundle branch block. There is prolonged circulation time and often there is a compensatory polycythæmia. Angiocardiography shows a huge right atrium. Cardiac catheterization is helpful in making a diagnosis, but is not without danger.[4]

The patient reported had dyspnœa and minimal cyanosis in his later years, but he also had emphysema and bronchiectasis. His chest radiographs were not demonstrative of any cardiac abnormality of note. Electrocardiograms showed only auricular fibrillation and myocardial strain. Unfortunately, no electrocardiograms taken before the onset of fibrillation are available. His hæmoglobin value stayed at about 14.5 to 15.0 g. On retrospect, these non-specific clinical findings can be seen to fit in with Ebstein's anomaly, but there was no indication during life that the heart was so abnormal. There were not enough symptoms referable to the cardiovascular system to warrant more extensive cardiac investigation.

Adams[3] reports a case of Ebstein's anomaly in a 79-year-old woman in whom the condition was not suspected. She also had an atrial septal defect 1.7 cm. in diameter. A review by Medd *et al.*[6] includes a case by Graux and Merlin in a 72-year-old man. These, added to the case just presented, make a total of three reported patients surviving past the age of 70 years with Ebstein's anomaly of the tricuspid valve.

SUMMARY

The finding of an unsuspected case of Ebstein's anomaly in a 75-year-old man is described. Reference is made to the clinical syndrome, and the fact that some patients have few or no symptoms and live normal lives is emphasized.

The author wishes to thank Dr. H. Meltzer for permission to publish this case, and the personnel of the Records Department of the Edmonton General Hospital and of the

Anatomy Department of the University of Alberta for their assistance.

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DELAY IN THE DIAGNOSIS OF ŒSOPHAGEAL ATRESIA*

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THERE is little doubt that early diagnosis of œsophageal atresia is becoming more common. The symptom complex of excessive salivation and prompt regurgitation of feedings is becoming well known and usually leads to immediate investigation. Despite this there are still two common "pitfalls" which cause unwarranted delay in diagnosis and these are seen so frequently that it is felt they should receive further comment.

It is well known that any baby with the symptom complex mentioned above should have a tube passed into the stomach without delay to confirm or exclude œsophageal atresia. What is not well known is the ease with which many rubber or plastic gavage tubes can curl up in the upper, blind œsophageal pouch and give a false impression of having passed readily into the stomach. We have seen this error made many times, and it invariably delays recognition and treatment by several hours. One can avoid the error by filling the tube with a little contrast medium and then passing it into the stomach under fluoroscopic control. If a blind œsophageal pouch is present, a small amount of dye can be injected into it and subsequently removed after x-rays are taken.

The other common cause of delay in diagnosis is confusion between the symptoms of atresia and those of respiratory distress following a difficult labour. We have been told several times that the doctor attending the baby at birth did not suspect œsophageal atresia when the baby had "choking spells", because the labour was difficult, and possibly associated with hydramnios. The latter should always raise the question of gastro-intestinal obstruction in the infant, and excessive salivation in any newborn demands immediate investigation despite the difficulties encountered during labour.

We have recently treated a baby in a situation which illustrates both these points.

Baby R.P. was born by Cæsarean section, the mother having had a normal first pregnancy. It was noted that the amniotic fluid was green and unusually tenacious. Great difficulty was encountered in resuscitating the baby and it was necessary to aspirate copious amount of mucus, which continued to accumulate despite almost continuous oral suction. There were several episodes of cyanosis. On the second day of life a tracheotomy was performed and immediately the respiratory difficulties disappeared. An attempt was made to pass a catheter into the stomach, and the anæsthetist reported that this had been accomplished.

Feedings were given for the first time on the third day of life. Immediate regurgitation suggested the true diagnosis, and radiographs with contrast media revealed œsophageal atresia, with air in the stomach. The baby was transferred to the Health Centre for Children of the Vancouver General Hospital, and at thoracotomy the common type of œsophageal atresia was found, with a typical tracheo-œsophageal fistula. The fistula was divided and closed and the œsophagus reconstituted. The tracheotomy tube was removed after the chest was closed.

The baby did well postoperatively, the only complication being an inspiratory stridor, commencing about the fifth postoperative day. This was thought to be due to granulation tissue at the tracheotomy site, and subsided coincidentally with the administration of cortisone. The baby had no dysphagia six months postoperatively, and has more than doubled his birth weight.

Despite the fact that the attending physicians in this instance were aware of the symptomatology of œsophageal atresia, the other features distracted attention from the diagnosis. An attempt to make the diagnosis by passing a catheter into the stomach was also misleading. It is felt that this case is a vivid illustration of some of the "pitfalls" one encounters in making a diagnosis in these cases.

SUMMARY

Two common causes of delay in the diagnosis of œsophageal atresia are discussed, together with a case illustrating these causes. It is felt that a concern for early diagnosis and treatment in this condition, a firm knowledge of its symptomatology, and a realization of situations which may conceal its presence, have combined to improve, and will continue to improve, survival rates in œsophageal atresia.

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MONEY AND THE PHYSICIAN

PHYSICIANS like money. They like money for the same reason that other people like money. They want money for what it can buy, but few of them worship it. Their primary objective is not the acquisition of wealth. Their primary objective is the carrying out of a job which they have freely chosen to do. As may be expected, amongst so large a group there are some people in the medical profession who are carried away by thoughts of power, money and domination. But they are few in number.

In the accompanying tables we show the net incomes of lawyers, consulting engineers and architects, dentists, accountants and physicians and surgeons. The information is taken from the most recent statistics published by the Department of National Revenue.[4]

In the case of physicians these statistics apply only to those in private practice. It is perhaps not generally known that close to one-quarter of physicians in Canada are on salaries. These are represented by about one thousand who are interns and who are doing postgraduate work, and between three and four thousand in other paid occupations.

Before making a comparison of the incomes of these various professions, it is appropriate to discuss the relationship of the incomes of physicians in private practice to certain other constants such as population growth, or the increase of gross national product per head of the population in Canada. In general, the physicians' incomes increase over the years at approximately the same rate as the gross national product of the country increases.[6, 7] This rate of increase is also approximately at the same rate as population growth in this country. In the period 1948 to 1957, physicians have been relatively as well off as industrial workers, and their relative incomes have not fallen. This situation has continued up to the present time.

If we compare the average annual incomes of various professions, it would appear that consulting engineers and architects have taken the lead from physicians and lawyers since 1954.

In Table II we show the calculated hourly rates of income, assuming 2500 working hours per annum for physicians in private practice and 2000 hours per annum for the other professions. We have assumed that physicians work longer than these other professions, which we think is a reasonable assumption. From the information gathered from a survey in the United States of America,[2] average hours of work were found to be: 54 hours per week for anæsthesiologists; 50 hours for ear, nose and throat specialists; 60 hours in general surgery; 60 hours in internal medicine; 60 hours in obstetrics and gynæcology; 45 hours in ophthalmology; 60 hours in orthopædic surgery; 60 hours in pædiatrics; 50 hours in psychiatry; 50 hours in radiology; and 60 in neurology. In New Zealand,[1] the average figure for general practitioners is 65 to 70 hours per week. And from the Windsor (Ontario) Study,[3] general practitioners work 10.5 hours per day. From this information it would appear that physicians as a group work hours which would make any self-respecting trade unionist go on strike immediately. When we come to Table II, we find that the net hourly rate for physicians is $5.59 in the year 1957. Proprietors of retail pharmacies in Canada had an average total income of $12,687 in 1957, according to a recent study of 448 pharmacies.[5] This income is close to that of the physician. The pharmacist also works about 2500 hours per year, producing a net hourly rate of $5.07. The pharmacist has the advantage of having a tangible business which can be sold.

It would appear from Table III that physicians and surgeons in private practice have somewhat more representatives in the higher income brackets than the other comparable professions. This is especially true for the group in the $15,000 and under $20,000 net income per annum bracket. In the incomes over $20,000, the proportion is approximately the same for physicians and surgeons as for consulting engineers and architects.

To those who regard all physicians as being fabulously wealthy it should be pointed out that approximately one physician in seven, in private practice, earned less than $5000 in 1957.

When we consider the incomes of salaried physicians in Canada, recent information is available from a survey carried out by the Canadian Medical Association during March and April 1959. The Association arbitrarily decided that for the purpose of the study, a salaried physician was one who received 90% or more of his earned income from one salaried appointment, excepting interns, residents or others engaged in training appointments to whom the study was not applicable.

We should like to interpose here that the financial arrangements accorded interns and physicians in training are by no means satisfactory in Canada. A review of employment practices of interns is long overdue. As these young men and women do highly skilled work in hospitals, they

TABLE I.—NET ANNUAL INCOMES IN DOLLARS, CANADA 1950-1957, FOR LAWYERS, PHYSICIANS AND SURGEONS IN PRIVATE PRACTICE, CONSULTING ENGINEERS AND ARCHITECTS, DENTISTS AND ACCOUNTANTS

Occupation	*1950*	*1951*	*1952*	*1953*	*1954*	*1955*	*1956*	*1957*
Lawyers	9641	10,214	9222	9955	11,925	12,243	12,617	13,244
Physicians and surgeons	9881	9975	10,522	11,258	11,891	12,166	13,053	13,978
Consulting engineers and architects	10,955	9628	12,266	10,289	12,059	14,007	13,640	14,581
Dentists	6202	6287	7112	7485	7896	8554	9230	10,234
Accountants		8171	8026	8096	8672	9315	9940	10,879

should be reasonably paid for what they do, as is the case in Great Britain and South Africa.

In 1959, the average annual salary for all physicians in all organizational and administrative categories was $11,003; for public health personnel $10,355, and for others such as those in university posts, medical and hospital administration, occupational health, research and pharmaceutical manufacturing $11,566. It is assumed that these paid physicians functioned on a 2000 hour per year schedule. This means that the hourly rate for all physicians doing organizational and administrative work was $5.55, public health physicians, $5.17, and university, medical, hospital administration, occupational health, research and pharmaceutical physicians, $5.78 per hour. If we take into consideration that these paid positions carry with them reasonable pension arrangements, paid vacations, and frequently advantageous group insurance plans, then it can be said that in Canada the salaried physician is in general no worse off than his colleague in private practice. On the contrary, it would seem that the physician in salaried work is improving his position relative to that of his colleague in private practice.

What should be fully realized is that in private practice the physician in process of establishing himself must eat. And in these days of early marriages while at university, his wife and children must also eat. For this purpose alone he has to borrow money while waiting for patients. He may also have to borrow money to buy a house and equip his practice. Thus, more often than not, he has a crushing burden of debt when he starts out, and it takes many years before he is solvent. In addition the physician in private practice usually does not have an increase in income as he grows older. If he had a business, like the pharmacist, this would be the case. His investment is in himself, not in buildings or in merchandise. He must do his work himself. He cannot dilute his labour, or readily employ a part-time assistant. His practice is personal, as his patients want to see him and no one else. He is very much of a waning asset as age advances. These are some of the many telling reasons why thinking physicians are wisely moving towards some development of group practice. From the physician's own point of view, partnerships or group practice are financially advantageous. Here the doctor has obvious additional advantages such as ease of consultation, opportunities for study and leisure, and the development of group insurance and other financial benefits.

TABLE II.—NET INCOMES OF VARIOUS PROFESSIONS IN CANADA: CALCULATED HOURLY RATES, ASSUMING 2500 WORKING HOURS PER ANNUM FOR PHYSICIANS IN PRIVATE PRACTICE AND 2000 FOR THE OTHER PROFESSIONS, 1950-1957

Occupation	*1950*	*1951*	*1952*	*1953*	*1954*	*1955*	*1956*	*1957*
Physicians and surgeons	$3.95	$3.99	$4.20	$4.48	$4.72	$4.86	$5.22	$5.59
Lawyers	4.82	5.10	4.61	4.98	5.96	6.12	6.31	6.62
Consulting engineers and architects	5.48	4.81	6.13	5.14	6.03	7.00	6.82	7.29
Dentists	3.10	3.15	3.55	3.74	3.95	4.47	4.66	5.11
Accountants		4.08	4.01	4.05	4.33	4.66	4.97	5.44

In final analysis, physicians will earn, like anyone else, what society is willing to pay them for their services. In a reasonably free society such payment should be the result of free negotiation between patient and physician or between physician and a third party. It should not be in terms of a government decree, a diktat, or a ukase.

W.H.LER.

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TABLE III.—CANADA: TAXATION YEAR 1957: PHYSICIANS AND SURGEONS, LAWYERS, DENTISTS, CONSULTING ENGINEERS AND ACCOUNTANTS: PERCENTAGE DISTRIBUTION ACCORDING TO INCOME

	Physicians and surgeons	*Lawyers*	*Dentists*	*Consulting engineers and architects*	*Accountants*
Under $5000	15.5	19.2	19.4	22.7	29.2
$5000 under $10,000	26.2	35.9	34.6	31.8	35.0
$10,000 under $15,000	20.7	19.9	27.8	17.3	16.1
$15,000 under $20,000	16.6	8.6	12.4	9.2	8.3
Over $20,000	20.9	16.4	5.3	19.0	11.3
Number of persons	11,755	6110	3756	2029	3184

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ADRENALECTOMY OR HYPOPHYSECTOMY FOR ADVANCED CANCER OF THE BREAST

THE mean clinical value (M.C.V.) was used by a group at Guy's Hospital, London, to assess the results of hypophysectomy versus adrenalectomy in 149 patients with advanced breast cancer. Atkins *et al.*,[1] who are reporting the present results, had also reported 60 of these cases in 1958. They have added to the previously reported 60 cases (30 adrenalectomies and 30 hypophysectomies) random cases of both procedures and others in which both radiotherapy and hormone treatment had been used intensively. In the 79 patients on whom adrenalectomy was performed, postoperative mortality was 9%, and in the 70 with hypophysectomy it was 4%. In view of the fact that adrenalectomy entails two operations, one could conclude that it is a somewhat more hazardous operation than hypophysectomy. Postoperatively, the writers were able to maintain their patients satisfactorily on 50 mg. of cortisone daily, but they used to implant 300 mg. of desoxycortone whose effect lasts at least six months. Now they treat such patients with a small oral dose of 9-α-fluoro-hydrocortisone (Fludrone 0.1-0.2 mg. daily) in addition to cortisone. The "mean clinical value" was formulated by examining each lesion four-weekly after treatment and assigning a mark according to whether it had improved or worsened. If improved two marks were given, if worsened a mark of zero was assessed, and if there was doubt or if the lesion had remained stationary one mark was scored. All the marks were added together at the end of the observation period, providing an objective method of evaluation. Both the mean clinical value and the survival showed a significant advantage in the group subjected to hypophysectomy. However significant the difference is, Atkins *et al.* pose the important question of the actual magnitude of this difference. Is it great enough to determine the policy of choosing hypophysectomy in preference to adrenalectomy? It must be remembered that large numbers of women are being treated for cancer of the breast, and in England and Wales, for example, some 7000 would come each year within the category where one or the other of these operations might at some time be helpful. It is impracticable at the moment to expect neurosurgeons to perform hypophysectomy on all of these patients, because there are not enough facilities for this operation available in the country. Would it therefore not be wiser to perform adrenalectomy rather than wait years before hypophysectomy can be performed? There is hope that preselection of patients who are the ideal candidates for one of the two operations will be possible in the near future, and a paper by Bulbrook, Greenwood and Hayward,[2] of the Imperial Cancer Research Fund, London, describes the method of selection of patients by determination of urinary 17-hydroxycorticoids and etiocholanolone. Whilst admitting that the number of patients tested for the urinary levels of 17-hydroxicorticosteroids (17-OHCS) and etiocholanolone was not large, and that the retrospective nature of the study decreased its value, it is still striking that the selection on the basis of their findings appeared potentially useful for candidates for hypophysectomy. They don't believe that it will be as useful for selecting candidates for adrenalectomy. A clinical trial is needed to substantiate these findings. They support once again the observations published by other workers and by their own group that metastatic breast cancer depends to a large extent on the hormonal environment and that this determines largely the response of the patient to endocrine treatment or to operation with removal of adrenals or pituitary. W.G.

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ST. ANTHONY'S FIRE REKINDLED

SUCH is the vividly imaginative and eye-catching title of a scientific paper which appeared in a recent issue of the staid, sedate and respectable *British Medical Journal*.[1]

In his "Boke of Chyldren", the first text on pædiatrics ever written by an Englishman, Thomas Phaire[2] wrote of this distressing ailment:

"In Greke herisipelas, and of the Latines, sacer ignis, our Englyshe women call it the fyre of Saint Anthony, or chingles, it is an inflammacion of members with exceding burnynge and rednesse, hard in the feling, and for the moste part creepeth above the skynne or but a little depe within the fleshe.

"It is a grevous paine, & may be likened to the fyre in consuming. Wherfore the remedies that are good for burnynge, are also verye holsome here in this case. And first the grene oyntment of herbes discribed in the chapter of ytche, is of good effecte also in this cure: moreover the medicines that ar here discribed."

Among his several remedies, Phaire advocated that the physician . . . "Take earthworms and stampe them in vinegar, then annoint the griefe every two houres": or ". . . Item ye donge of a swan, or in lacke of it, the donge of a gose stamped with whyte and yolke of an egge is good": or again ". . . Item doves donge stamped in salet oyle or other is a synguler remedy for the same purpose."

In the tenth and eleventh centuries epidemics of a common disease known variously as "mal des ardents", "sacer ignis" or "feu sacré" in France, were caused by ergot poisoning from rye infected with *Claviceps purpurea*. [The rye was in the form of flour, not in liquid form—ED.] The recurring references to fire, in connection with this ailment, are readily explained by the violent burning pain in the limbs, so quaintly described by Phaire.

Frequently, the sufferer, unable to bear the heat in his bed, sought relief in the open air. When gangrene supervened, the resemblance of the blackened limbs to charcoal was all too vividly apparent. Several houses of the Order of St. Anthony devoted themselves to ministrations to victims of the "holy fire"; symbolically the walls of these institutions were painted red, the colour of flames.

While undoubtedly referring originally to the condition of ergotism, the definition of St. Anthony's fire frequently became confused with erysipelas in subsequent references, as witness the writings of Phaire. Such confusion is understandable in that patients with ergot poisoning may exhibit fiery red flushing and sweating of the face and neck.

Although contraindications to the use of ergotamine are frequently mentioned, the British and American literature contains references to large numbers of cases of ergotism due to either liquid ergot or ergotamine tartrate. These drugs are generally considered contraindicated in the presence of peripheral vascular disease, hypertension, coronary disease, pregnancy, thyrotoxicosis, gross infection, hepatic and renal disease, and anæmia.[3] The use of ergotamine by patients who are sensitive to it "has produced nothing less than disaster", and "whenever a new case is reported it becomes a matter for astonishment that responsible manufacturers make it for medical use."[4]

That St. Anthony's fire has indeed been rekindled is emphasized afresh by the report of Cameron and French[1] describing the occurrence of serious ergotism in a 45-year-old woman who had been taking ergotamine tartrate in accepted therapeutic doses of 1 mg. t.i.d. orally, in an attempt to modify her complaint of distressing menorrhagia. This medication had been prescribed during her convalescence from "influenza". After ingestion of only seven tablets, she became acutely ill and ultimately developed gangrene of the distal portions of the extremities, which necessitated amputation of both legs, one thumb and the tip of one index finger, despite vigorous application of several rational therapeutic measures. Pronounced transient proteinuria attributed to renal vasoconstriction with reduction in glomerular filtration and a moderate degree of leukocytosis were additional noteworthy features of her illness ascribed to her excessive response to a standard dosage of ergotamine tartrate. The authors of this report stress that although thousands of persons throughout the world consume ergotamine preparations for migraine with considerable benefit and no serious consequences, such an eventuality may arise at any time, and the margin between an adequate and a dangerous dose may be extremely narrow.

They advocate an initial course of treatment not in excess of a total dose of 1 mg. of this drug, with cautious increments in total dosage for succeeding attacks if required and if not accompanied by significant side effects such as nausea, vomiting, muscle cramps and paræsthesia. Treatment of ergot poisoning is generally ineffective once intense vasospasm has developed. In this stage, alas, it seems that Phaire's green ointment of herbs, earthworms stamped in vinegar, swan or goose dung stamped with the white or yolk of an egg, or even doves' dung in salad oil, will not maintain their reputation as singular remedies for this purpose.

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CALCIFICATION OF THE VAS DEFERENS AND DIABETES

IT is now generally agreed that calcification of the vas deferens is relatively specific to diabetes. The association between the two conditions was first noted in 1942 by Marks and Ham, who found that 7 of their 9 cases of calcification of the vas deferens were in diabetics. Fifty-six diabetics with such calcification of the vas, who were seen at the New England Deaconess Hospital, had an average duration of their diabetes of 18.3 years and 53 had associated arterial calcification. Retinitis was present in 37, and hypertension and proteinuria were found in some half of the cases.[1] Culver and Tennenhaus[2] of Buffalo, New York, studied a randomly selected group of 100 diabetics for evidence of calcification of the vas deferens.[3] In all, eleven patients were found to have calcification; five of them were in the fifth decade, but the remaining six were evenly distributed between the fourth and sixth decades. Six of the patients also had associated arterial calcification. The duration of diabetes in these patients varied from 6 months to 33 years. From the x-ray films which they present one can see that the calcification is most pronounced in the superior wall and is not unlike the typical calcification seen in arterial structures. There is a marked difference in the roentgenographic appearance of degenerative calcification of the vas deferens and that following infection. Culver and Tennenhaus stress that 70% of males who have calcification of the vas deferens will be found to have diabetes. It appears that if calcification of the vas deferens of the plaque-like type involving mainly the wall is observed in x-ray films, one's attention should be drawn to the possibility of diabetes being present. Intraluminal calcification is, by contrast probably post-infectious.

W.G.

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Canad. M. A. J.
Sept. 17, 1960, vol. 83

LETTERS TO THE EDITOR

"AN UNHOLY ALLIANCE"

To the Editor:

I note with interest, and I must admit, without regret, the "Failure of a Mission", namely the disappearance of the "Canadian Disease and Therapeutic Index" as reported in your nice obituary piece (*Canad. M. A. J.*, 83: 223, 1960).

I firmly believe that the alliance between the C.M.A. and the so-called "Ethical Pharmaceutical Industry" is an unholy one and should never be allowed to occur again.

ALAN A. KLASS, M.D.

Mall Medical Group,
Memorial Boulevard at St. Mary's,
Winnipeg 1, Man.

(See September 3 issue, Letters to the Editor, *Canad. M. A. J.*, 83: 553, 1960, and Report of the C.M.A. Committee on Pharmacy to General Council in the same issue on page 505.—ED.)

MALPRACTICE SUITS

To the Editor:

Dr. Alan A. Klass (*Canad. M. A. J.*, 83: 323, 1960) offers timely comment on malpractice suits and on the many other disputes which, while they do not and perhaps cannot reach the courts, are at least equally damaging to the relationship between a patient and his doctor. Quite properly, the writer places some of the responsibility on insurance practices, but for the most part the increase in actions against the doctor is the fault of the doctor himself.

Today's doctor, in his arduous pursuit of technical competence, concerns himself less than ever about the patient, his work, his economic status and his family. Only when faced with a suit for malpractice does the doctor recognize poor rapport as the cause of the dispute. He then learns with dismay that at least until he reaches the door of the court, the technical perfection of his professional attention has little relevance. Good techniques of treatment, proved in court, may help to win any law-suit, but they seldom do much to prevent a legal action. This preventive law is of prime importance, for the experience of being a defendant, even a successful defendant, in an action for negligence is hardly a happy one.

"There is little doubt," says Dr. Klass, "that we are practising better medicine than our fathers." To the extent that this refers to therapeutic technique, it is true, but the older practitioner practised social medicine of a much higher standard than is commonly the case today, and this may have contributed to his immunity from suit.

The suggestion that the doctor should . . . "bow to his brother learned in the Law" fails to appeal to those of us who believe that it is precisely this obeisance that has perpetuated a situation we all agree is imperfect. Admittedly, a few enlightened jurists, recognizing the ineptness of court procedure for doctor-patient disputes, have over the years advocated changes. Generally they have proposed a tribunal, presided over by a lawyer or a judge, answerable to the courts for its observance of the rules of natural justice. The proposed tribunal differs from a court in that it is flexible and adaptable in its approach and is not to be bound by rules of evidence and precedents of procedure which, however beneficial they may be to a court dealing with broad issues of contract, tort or crime, are much too rigid to do justice to the parties where a doctor is in dispute with his patient. The principle is not a new one, and operates in many systems of law. It has been recognized for centuries in admiralty matters.

The legal profession as a whole never has favoured the establishment of such a tribunal, and it is useless to leave the matter in the hands of the Law Amending Committees, of which, as Dr. Klass notes, lawyers make up the majority. It is a matter for our own Association, and calls for thoughful appraisal, for otherwise the day will come when a patient will tend to be treated not to the best of his doctor's ability, but in the way that will look best in court.

ROBERT BRADLEY

Swift Current, Sask.

Medical News in brief

CHLORPROMAZINE IN NONPSYCHOTIC PATIENTS WITH PULMONARY TUBERCULOSIS

Thirty-six patients with pulmonary tuberculosis were treated by adding chlorpromazine to the customary antimicrobial treatment. Daily doses of 300 mg. were given for periods of three to twelve months, the majority of patients being treated for more than six months. Progress was evaluated by microscopy, culture of sputum and serial roentgenograms of the chest. Results were compared with those of a similar group of 37 patients who did not receive chlorpromazine but who were evaluated similarly and concurrently.

Hollister, Eikenberry and Raffel (*Am. Rev. Respiratory Dis.*, 81: 562, 1960) report that total evidence of improvement (either by roentgenographic criteria or reversal of infectiousness) in the chlorpromazine-treated group was significantly greater than in the comparison group. Decreased infectiousness of sputum was also significantly different in the treated group. Neither reversal of infectiousness nor roentgenographic improvement considered separately was significantly different in the entire treated group or in those observed for the longest period (from 9 to 12 months).

Weight gain was greater in the treated group. Minor and major side reactions of the usual type were experienced from chlorpromazine treatment. Adverse mental symptoms, such as precipitation of psychosis, exacerbation of anxiety reactions, and mild withdrawal reactions, were unexpected complications.

At present, chlorpromazine cannot be recommended as adjuvant treatment for the nonpsychotic patient with pulmonary tuberculosis, despite its antimicrobial activity demonstrated *in vitro*. However, other related compounds may appear with more antimicrobial activity and less toxic effects.

A SPECIFIC FOR RELIEF OF PAIN IN BILIARY DYSKINESIA

Apomorphine hydrochloride has been in use for years to induce vomiting in patients with hysteria or alcoholism. Parson (*Ann. Int. Med.*, 52: 444, 1960) noted in addition that this drug, in subemetic doses, produces sleep in patients with Cheyne-Stokes respiration, when other sedatives and narcotics have not been helpful. He commented that many years previously he had had a young female patient who, after cholecystectomy, had severe and frequent episodes of upper abdominal pain, not relieved by morphine and atropine, but dramatically relieved by subemetic doses of apomorphine hydrochloride given subcutaneously. He had frequent opportunities to confirm this finding in his patient, and to document the authenticity of this form of treatment.

Three further patients suffering from severe pain of biliary dyskinesia were treated on several occasions and confirmed the fact that prompt alleviation was produced by subcutaneous injection of 1/40 of a grain of apomorphine hydrochloride. Nitroglycerin sublingually was administered during milder attacks, but in patients with severe grades of pain not helped by the usual antispasmodics, or by intravenous calcium or meperidine, apomorphine hydrochloride produced immediate relief.

Parson reports his experience in the use of apomorphine hydrochloride as a specific in the alleviation of pain in biliary dyskinesia with the hope that other investigators will subject this remedy to a more systematic trial.

TEMPORAL ARTERITIS

The importance of prompt diagnosis of temporal arteritis was stressed by Hollenhorst, Brown, Wagener and Shick who reported that 42% of the 175 patients seen at the Mayo Clinic with this disease between 1939 and 1959 became blind in one or both eyes before the diagnosis had been made (*Neurology*, 10: 490, 1960). This is the more poignant when it is realized that loss of sight might have been prevented by early adequate corticosteroid therapy. Of these patients only 13 had been referred with the correct diagnosis. Brain tumour was suspected by the referring physician in 11, trigeminal neuralgia in 8, and meningitis in 2 patients. At least 111 of these patients had been referred because of suspicion of central nervous system involvement.

This form of arteritis is not limited to temporal arteries nor even to the cranial vessels, but may involve major branches of the aortic arch and other large arteries. In its fully developed form it is easily diagnosed, but in its early stages, before involvement of the superficial vessels, a definite diagnosis may be difficult. Occasionally, loss of vision may be the first symptom. The prodromal period, consisting of aching in the muscles of the neck, chest or scalp, with fatigue, anorexia, night sweats and loss of weight, may last from several weeks to three to four months. The headache characteristically becomes worse in the evening or at night and is aggravated by the slightest touch and especially by exposure to cold. Tender areas or even red nodules on the scalp may be present, and combing the hair or wearing a hat may become impossible. Pain of the muscles of mastication with trismus which the patient may call "lockjaw" is common. The carotid arteries may be tender to palpation. In the early stages excessive elevation of the erythrocyte sedimentation rate to more than 100 mm./hour (Westergren) is usual. The blood smear frequently shows striking rouleaux formation and a shift to the left in the leukocyte series. The eyes may be affected by ischæmic optic neuritis, retrobulbar neuritis or occlusion of the central retinal artery.

The majority of the 175 patients in the Mayo Clinic series were 60 years of age or older and 68 had no ocular signs or symptoms. Twenty-five were blind in one eye and 21 in both eyes. Partial loss of vision in one or both eyes was present in another 27. Of 88 patients seen in consultation by neurologists, 69 were found to be completely free of neurological disease. Abnormal neurological findings probably related to the temporal arteritis, included episodes of fainting or convulsions, acute loss of hearing, massive cerebral hæmorrhage and death. Six patients had possible occlusive disease of the aortic arch.

Since 1949 all patients with temporal arteritis at the Mayo Clinic have been treated as emergencies and given corticosteroid therapy. On this regimen only one patient has suffered loss of vision during the past ten years. In patients with recent visual impairment intermittent inhalation of 100% oxygen was said to be of some benefit.

CAUSES AND PREVENTION OF COMPLICATIONS IN RESECTION SURGERY FOR PULMONARY TUBERCULOSIS

Resections for pulmonary tuberculosis in 274 patients totalled 288 over an 11-year period and were divided into an early and a late group. The complication rate was 28% for the first 5½ years of the study and 19% for the last 5½ years. The change was due to an improvement in surgical technique and in preoperative preparation of the patient with drugs, as well as in careful bronchoscopic study just before resection.

The physician must present to the surgeon a patient whose tuberculosis is stable and not progressive. Negative sputum is desirable but not mandatory. If positive, resistance studies are necessary. The patient's general condition should be as suitable as possible for major surgery. Diabetes, chronic anæmia, and heart disease must be controlled or controllable. Patients with low cardiopulmonary reserve must be studied very carefully before planning resection, as emphysema and poor pulmonary function are relative contraindications to extensive resection surgery. From here on the surgeon's responsibility is paramount. He must assure himself of a quiescent bronchus, and he must be certain that there is adequate drug coverage should the patient's organisms be resistant to streptomycin, PAS, and isoniazid.

Eldred and Samson (*J. Thorac. Cardiovasc. Surg.*, 39: 716, 1960) believe that the complication and mortality rates can be brought down still lower by careful preoperative and postoperative management of the tuberculous patient, as well as by meticulous attention to surgical details.

(Continued on advertising page 29)

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Men and Books

DARWIN'S BULLDOG

R. G. FOULKES, B.A., M.D., *Coquitlam, B.C.*

THE SAILS snapped on the creaking masts as the wooden ship lurched through the rolling sea. In one corner of the dark, cramped chart-room, sat a young man hunched over a microscope that was lashed to a heavy desk. His observation, on marine specimens plucked from the depths by means of an improvised scoop, would eventually lead to fame that would survive for a century.

The ship was *H.M.S. Rattlesnake*, bound for Australia from Mauritius; the microscopist was the ship's assistant surgeon and naturalist, Thomas Henry Huxley, who, in 1859, a dozen years later, would become the foremost scientific champion of Charles Darwin and the revolutionary ideas implicit in his "Origin of Species" and "The Descent of Man."

Huxley is a name that has been included in almost all of the reports, both lay and professional, that commemorated, in 1959, the centenary of the publication of the first of these great works. Who was this man who was popularly called "Darwin's Bulldog"? What factors in his own experience prepared him for his role as the chief defender of the beleaguered innovator?

To his fellow Victorians T. H. Huxley was many things. He was, for instance, a lecturer in the Royal School of Mines and the author of such works as "Man's Place in Nature" (1865) and "Lay Sermons" (1870). He was, in addition, a member of the London School Board, an Inspector of Fisheries, a member of ten Royal Commissions, and a member of the Privy Council. His contemporaries read or heard of his receipt of the Copely Medal and the Darwin Medal of the Royal Society and watched him advance through the secretaryship of that renowned organization to become its president in 1883.

T. H. Huxley was born on May 4, 1825. In spite of the fact that his father was at one time a schoolmaster, young Thomas's early education was neglected. He compensated for this deficiency, at least in part, by his own enterprise and curiosity. His journal of 1840 to 1845 shows a tendency towards metaphysical speculation and to making experiments and applying them to his own theories.

He was persuaded to study medicine, and after a short term in 1841 at Rotherhithe as assistant to a Mr. Chandler, he was apprenticed to a brother-in-law, a physician practising in North London. During this period, he attended lectures at Sydenham College and began his medical training on a scholarship at Charing Cross Hospital. After winning several prizes for science (chemistry, anatomy, and physiology) in this institution, he went to the University of London for his M.B., which he received in 1845, along with a gold medal in anatomy and physiology.

The year after the receipt of his M.B., Huxley, then too young to qualify for the College of Surgeons, managed to obtain an appointment in the Royal Navy as an assistant surgeon. After serving a few months at the naval hospital at Haslar, he was transferred to *H.M.S. Rattlesnake*, which was scheduled to make a survey of the Australian region. He was given this appointment on the recommendation of Sir John Richardson, a noted explorer and Huxley's chief at Haslar. Sir John had confidence, evidently, that Thomas Huxley had the necessary attributes to fill the position which required an assistant surgeon possessing a high degree of interest in natural history.

The outward voyage of *H.M.S. Rattlesnake* began at Spithead on December 3, 1846, and ended at Sydney, Australia, on July 16, 1847, after the ship had touched Madeira and had made stops at Rio de Janeiro, the Cape, and Mauritius. During this voyage, Huxley carried out many dissections and examinations on marine animals that were collected by means of a tow-net which he and the ship's naturalist, MacGillvray, had constructed.

Huxley's research at this time was accomplished in the teeth of numerous obstacles. In addition to the chaos which existed at the time in the classification of sea animals, there were the inconveniences and the hardships encountered by Huxley in his cramped and ill-lighted "laboratory", the opposition of the navigation officers to his dissections and to the use of the tow-net, and the isolation resulting from his being cut off from his scientific acquaintances. The many observations made, despite this adversity, enabled Huxley to send two papers to the Linnæan Society (read in 1849) and to begin a paper on the medusæ, which was to make his name known in the zoological field.

During his first stay in Sydney, he not only had his first introduction to social life (to which his naval commission was the key) but also met his future wife, Miss Henrietta Heathorn, without whose name a biography of T. H. Huxley, no matter how brief, would be incomplete.

The first and second cruises of the *Rattlesnake* were restricted to the coast of Australia. The first was to Brisbane and Cape Upstart and back to Sydney; the second, to Bass Strait, Tasmania, and Melbourne. During both of these cruises, Huxley continued his study of marine forms, mostly mollusca and the tunicates.

On the third cruise (April 1848 to January 1849) his zoological work slackened off. He was disheartened, presumably over the fact that he wanted to marry, yet had no prospect that his financial status would improve in the immediate future and because he had heard nothing about his paper on medusæ which Captain Stanley, the master of the *Rattlesnake*, had forwarded to his father, the Bishop of Norwich, who was to communicate it to the Royal Society. Huxley could not know that his paper was to be published in the *Philosophical Transactions* of the Royal Society within a few months. Characteristically, though, Huxley's mind was not inactive although he was temporarily bereft of zoological interests. He engaged himself at this time in reading Italian and French literature.

During the fourth cruise, a journey to the Louisade Archipelago (May to August 1849) and another to New Guinea and Cape York (August 1849 to January 1850), Huxley's spirit returned, and his diary shows that he had developed a great interest in the natives whom he had the opportunity of observing before their primitive ways had been altered by contact with Europeans. He made many drawings and notes of these people as well as adding to his zoological knowledge by further observations of marine life.

At the end of the brief return to Sydney, Huxley said farewell to Henrietta and sailed for home. *H.M.S. Rattlesnake*, with Huxley on board, left Sydney in April

1850, and arrived in England in October of the same year.

Upon his return to England, Huxley found that his paper, "Upon the Anatomy and Affinities of the Medusæ", which had been published in the Royal Society's *Philosophical Transactions* in 1849, had established him in zoological circles. It was on the basis of this publication that he was elected a F.R.S. in 1851. The remainder of his zoological data was refused publication by the Navy, but Huxley was led to hope that the Royal Society could be induced to publish his material with the annual grant which they received from the government.

For the purpose of organizing his material and of arranging for its printing, he was able to persuade the Admiralty (with the help of such influential persons as Sir John Richardson and Professor Edward Forbes) to let him stay in England with a leave of absence. To this end he received an appointment to *H.M.S. Fisguard* for a period of six months, subject to extension if he were able to report satisfactory progress with his work.

In June of 1851, he was able to report the publication of seven memoirs and by the end of that year, four more. In the meantime, he applied for a Chair at the University of Toronto. His application was sent in vain, however, for in spite of his F.R.S. and his letters of recommendation, the post was filled by another in 1853.

In 1852, Huxley received the Gold Medal of the Royal Society and was elected to the council of that institution. The year following the reception of this honour, Huxley found employment in writing for the *Westminster* and in writing "A Manual of Comparative Anatomy" for Churchill the publisher. As a consequence of this, Huxley, by 1854, could afford to allow the Navy to strike him off strength.

His leaving the Navy had the beneficent effect of removing the objection of the Royal Society to publishing his papers while he still had claims on a government department. This resulted in their assigning £300 in June of 1854 for the purpose of printing his chief manuscript, "Oceanic Hydrozoa" The remainder of the expense was borne by the Ray Society. In this same year Huxley received an appointment as Professor of Natural History and Palæontology at the Royal School of Mines, a post which he occupied for 31 years. Later, he was appointed to the Coast Survey and was asked to lecture at St. Thomas's Hospital and at Marlborough House. While these successes were being achieved and Huxley's career seemed to be establishing itself, the person with whom he most needed to share his good fortune, Miss Heathorn, was on her way to England, accompanied by her father.

Henrietta Heathorn and Thomas Huxley were married in 1855. They were destined to live many years together and to rear seven of their eight children to maturity. During the year of his marriage, Huxley gave the first of his *Lectures to Working Men*. The year following saw the publication of his studies in the field of palæontology and the year after this, his appointment as Examiner in Physiology and Comparative Anatomy at the University of London and as Fullerian lecturer at the Royal Institute. The Croonian Lectures given in 1858, the year when his work, "Oceanic Hydrozoa" finally appeared from the press, were on "The Theory of the Vertebrate Skull". This series of lectures gave the death blow to the transcendental system of anatomy championed by Richard Owen, the leading anatomist at that time.

In January of 1859, Huxley was elected secretary of the Geological Society. In November of the same year, Darwin's book, "The Origin of Species", was published.

Mr. Lucas, a journalist, was supposed to review the book for the *Times*, but knowing his own limitations in dealing with a work of science, he gave the job to Huxley. Through this freak of chance one of the three judges by whose decision Darwin had decided to abide was given the opportunity of reviewing this monumental work.

Darwin's book was reviewed in such an enthusiastic manner that Huxley became known henceforth, in zoological circles at an rate, as the chief warrior of the evolutionary cause.

Huxley's acceptance of the Darwinian theory, and his application of the hypothesis to his own subjects, and particularly to mankind, was undoubtedly the result of the fusion of heretofore unconnected discoveries revealed to him by his own researches and by his readings. The inevitability of this process can be realized by recapitulating a few instances illustrating Huxley's progress in this direction between the years 1846 and 1859.

During the period of waiting for the *Rattlesnake* to leave, Huxley, in 1846, attended his first meeting of the British Association where he obtained from Professor Edward Forbes an *Amphioxus lanceolatus*. Huxley examined the blood of this small animal and showed, in a paper on the subject, the similarities between the blood of the vertebrates and that of the invertebrates. Later, in his paper on medusæ (1849) he commented on the similarity between the two primary membranes of these invertebrates and the serous and mucous layers discovered in the chick embryo by Von Baer. These relationships could be explained only by the application of the evolutionary concept. Again, the archetype which he designed to assist him in classifying many superficially dissimilar animals such as medusæ, polyps, and siphonophores, was, after 1859, looked upon not as a mere convenience but as the possible form of a primitive ancestor of these structurally related forms. His palæontological work at the School of Mines and especially his work on fossils and fish development enabled him to observe a well-marked series of gradations between fishes, reptiles, and mammals with regard to their plato-suspensorial apparatus. This same idea, of the homologies between these three groups of vertebrates, was elaborated in 1858, when Huxley gave his lectures on the vertebrate skull. In these lectures, using the embryology of Van Baer, he established three classes of vertebrates: one containing the fishes, another containing the birds and reptiles, and a third class containing the mammals. All three of these classes he derived from an amphibian stem.

In spite of this startling deduction however, Huxley, with regard to organic evolution, was only slightly more convinced in 1858, when Darwin and Wallace presented their joint communication to the Linnæan Society than he was in 1852, when Herbert Spencer tried to convert him to the theory of transmutation. But when "Origin of Species" was published, Huxley, faced with the organized evidence supporting Darwin's theory, knew that he must accept it as a working hypothesis. He must have felt, also, that he had to enlarge upon the theory and protect it from the ridicule and misrepresentation that were certain to fall upon a

work of such unorthodox nature. This became the chief labour of his remaining years. Although he added nothing to the theory, his elucidations, made possible by his vast store of knowledge, effected the propagation of the theory to his contemporaries, and to posterity.

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1687 Sprice Ave.,
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PUBLIC HEALTH

SURVEILLANCE REPORTS OF EPIDEMIC OR UNUSUAL COMMUNICABLE DISEASES

ASEPTIC MENINGITIS

A large outbreak of "aseptic meningitis" has been reported from Prince George City, British Columbia. About 100 cases have occurred since the middle of June. During the same period, six cases of paralytic poliomyelitis with one death were also reported. It is assumed that the aseptic meningitis outbreak is mainly due to poliovirus.

FOOD POISONING

Further information has been received on the high incidence of food poisoning and bacillary dysentery during 1960 in British Columbia (1082 cases of bacillary dysentery and 519 cases of food poisoning were reported to July 23, 1960, against 157 and 167 cases respectively, for the same period in 1959).

Last February, an outbreak of food poisoning due to staphylococcus enterotoxin occurred at Woodland's School, involving 236 persons (see the Surveillance Report of February 27, 1960). In May, another outbreak of food poisoning involving 59 persons occurred in Chilliwack (see the Surveillance Report of May 7, 1960). Thirty-nine of these people had a double infection. The principal organism isolated was *Salmonella heidelberg*, the other organism being *Salmonella thompson*.

So far this year, there has been a 40% increase in the number of isolations made in the Provincial Laboratories. Most of the isolations have been *Shigella sonnei* and most of the Salmonella identified have been *heidelberg*. No specific reason has been found to date to account for the increased incidence.

Twenty-seven cases of food poisoning due to *Salmonella typhi murium* have been reported from Vancouver. An above-average incidence of salmonellosis among elderly people, 60 years and over, has been observed. All the cases were mild and were due to *Salmonella typhi murium*.

LEPROSY

One case of leprosy has been reported from Lethbridge, Alberta. The patient, a 48-year-old man, arrived in Canada two years ago from India where he had been living since the age of eight. The diagnosis is based upon a combination of clinical and histological findings. The lesion consists of an area of anæsthesia and dermatitis over the medial aspect of one ankle and foot. Biopsy revealed a granulomatous condition consistent with the tuberculoid type of leprosy. No leprobacilli have been found in either the local lesion or in the nasal scrapings. Sulphone therapy is now underway. The patient's wife and three daughters have been examined and show no evidence of disease.

DIPHTHERIA

Six cases of diphtheria with one death due to *C. diphtheriæ gravis* have been reported from Chitek Lake, Saskatchewan. All cases occurred in one family. Two other carriers were found in the family and five in the community. The outbreak was controlled by passive-active immunization and penicillin therapy of carriers.

TULARÆMIA

One case of tularæmia has been reported in the province of Ontario for the week ending July 30, 1960. This is the fourth case of tularæmia reported in Ontario this year.

TRICHINOSIS

Three more cases of trichinosis have been reported from the province of Quebec since the last report, bringing the total for the year to 54. Two of these cases were reported from Montreal and one from Verdun.

A case of trichinosis has been reported from Charlottetown, Prince Edward Island, by Dr. Burton Howatt, Assistant Deputy Minister of Health, Provincial Department of Health and Welfare.

PARALYTIC POLIOMYELITIS IN CANADA*
32ND WEEK—ENDING AUGUST 13, 1960

	Reported cases									*Deaths*		
	This week			*Last week*			*To this date*			*To this date*		
	1960	*1959*	*1958*	*1960*	*1959*	*1958*	*1960*	*1959*	*1958*	*1960*	*1959*	*1958*
Canada	34	132	9	27	128	3	287	535	55	24	45	6
Newfoundland	3	7	—	—	6	—	26	50	3	2	4	—
Prince Edward Island	(a)	—	—	—	—	—	1	—	—	—	—	—
Nova Scotia	—	—	—	—	—	—	5	1	—	1	—	—
New Brunswick	2	1	—	2	2	—	17	8	1	—	1	1
Quebec	10	110	—	7	105	1	58	393	12	8	30	—
Ontario	1	6	—	1	9	1	5	36	5	—	4	3
Manitoba	—	1	7	—	1	1	4	8	16	—	—	—
Saskatchewan	5	1	—	—	2	—	21	11	—	2	1	—
Alberta	4	4	2	7	3	—	49	12	9	2	1	—
British Columbia	9	2	—	10	—	—	100	5	9	9	—	2
Yukon	—	—	—	—	—	—	—	—	—	—	—	—
Northwest Territories	—	—	—	—	—	—	1	11	—	—	4	—

*Weekly returns based on telegraphic reports by provinces. (a) Figures not available.

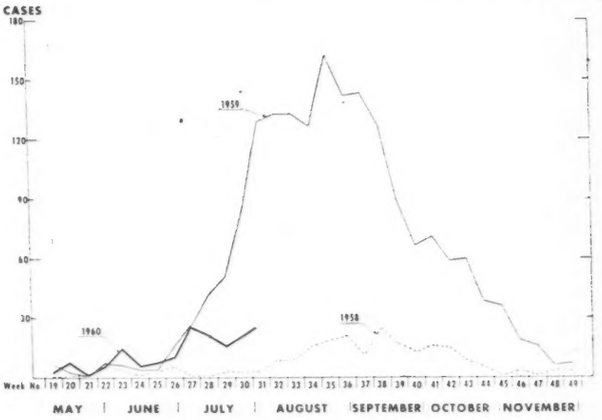
PARALYTIC POLIOMYELITIS

CANADA

A total of 27 cases of paralytic poliomyelitis was reported to the Epidemiology Division during the week ending August 6, 1960 (31st week). Twenty-one cases were reported the previous week. The totals for the 29th and 28th weeks were 16 and 21, respectively.

Since week 27, when an appreciable increase in the number of cases occurred, 25 compared with 10 cases the previous week, for the last five weeks there has been a levelling-off of the cases reported, with a low of 16 cases in week 29 and a high of 27 in week 31. The sharp seasonal rise experienced in previous high-incidence years, starting in mid-July, did not occur this year. Whereas at the end of the 27th week the 1960 cumulative total was the highest recorded since 1949, by the end of the 31st week it is noted that the 1960 total is among the lowest and that the current weekly totals are well below those reported in previous high-incidence years.

The weekly cumulative totals for the weeks 27 to 31, in the high-incidence years since 1949, are presented below:



Paralytic poliomyelitis reported weekly incidence, 1958-59 and 1960, Canada.

Year	*1949*	*1951*	*1952*	*1953*	*1954*	*1959*	*1960*
Cumulative totals							
To week 27	57	41	60	154	155	88	168
To week 28	75	53	82	216	178	141	189
To week 29	92	69	106	301	203	192	205
To week 30	157	106	141	436	229	275	226
To week 31	279	151	205	619	217	403	253

Ottawa, August 13, 1960. Epidemiology Division, Department of National Health and Welfare.

OBITUARIES

DR. WELLINGTON JOHNSTON BARNETT, aged 38, died July 23 at St. Michael's Hospital, Toronto. Born in Toronto, he graduated from the University of Toronto in 1953.

He served as a lieutenant in the Royal Regiment of Canada and was wounded in Cannes in 1944.

Surviving are his widow, a son and a daughter and his father, Dr. J. W. Barnett.

DR. FREDERICK WILLIAM BRYDONE-JACK, aged 76, of Qualicum Beach, B.C., died July 30. A graduate of McGill University in 1907, he was a member of a long established family of doctors. His father was Dr. W. D. Brydone-Jack of Vancouver and his grandfather was Dr. W. Brydone-Jack, one-time president of the University of New Brunswick.

Surviving are his widow and a daughter.

DR. JOHN ALEXANDER GUNN, 82, died on August 8 in Deer Lodge Hospital, Winnipeg. He was born in Stonewall, Man., where his father headed the firm of John Gunn and Sons, railway contractors.

Dr. Gunn graduated from Manitoba College, Winnipeg, in 1897 and from Manitoba Medical College in 1904. He was medical superintendent of Winnipeg General Hospital in 1907, did postgraduate work in the United States and Europe, and practised in Winnipeg with Dr. R. J. Blanchard, who had a private hospital. In 1914 he left Winnipeg to be officer commanding No. 1 Canadian General Hospital located in Etaples, France. Twice he was mentioned in despatches and for his services was awarded the O.B.E. and C.B. Returning to Winnipeg, he became chief surgeon of the Winnipeg General Hospital and of St. Boniface Hospital, and professor of surgery, University of Manitoba. On his retirement from the Chair, he was made emeritus professor of surgery. From 1940 to 1947 he was chief medical officer of the Manitoba district of the Canadian Pacific Railway.

He was a president of the Canadian Club of Winnipeg and the Manitoba Club, and was also president of the Manitoba Medical Association and a vice-president of the Canadian Medical Association. He was an organizer of the Winnipeg Corps of Commissionaires and of the Medical Arts Building and a member of the Institute of International Affairs.

Dr. Gunn is survived by his widow and two sons.

R.M.

DR. J. J. PERVERSEFF, aged 54, died August 7 in Vancouver. A native of Blaine Lake, Saskatchewan, and a graduate of the University of Manitoba in 1933, he served for six and a half years with the R.C.A.F., attaining the rank of Squadron-Leader, and with the Red Cross in Ethiopia.

He did postgraduate work in Vienna, practised in Saskatoon until the outbreak of World War II, and on his return from duty overseas, he established a practice in Vancouver.

Dr. Perverseff is survived by his parents, a brother and a sister.

DR. ROBERT W. ROBERTSON, of Edmonton, aged 38, died suddenly July 18. Born in Winnipeg, he graduated from the University of Alberta in 1948, winning gold medals for surgery and internal medicine. He studied eye surgery at the University of Toronto for three years and then returned to practise in Edmonton.

Surviving are his widow, three daughters, two sons and his father.

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MEDICAL ECONOMICS

MEDICAL EXPENSES AND INCOME TAX

The 1960 amendents to the Income Tax Act provide that for 1960 and subsequent years the maximum deductions for medical expenses are increased from $1500 to $2500 for a single taxpayer, from $2000 to $3000 for a married taxpayer and from $500 to $750 for each dependent up to a total of $3000 for such dependents.

Medical expenses may be claimed only in the amount that they exceed 3% of net income and in no instance will deductions under this heading be allowed in excess of the sums quoted above. Medical expenses for purposes of the Income Tax Act include:

1. Payment to a hospital or qualified medical practitioner, dentist or nurse. (The expression "medical practitioner" includes a qualified chiropractor, naturopath, optometrist, osteopath, podiatrist or therapeutist.)

2. Payments made for the following items if prescribed by a medical practitioner; injectable liver extract or Vitamin B_{12} for pernicious anæmia, insulin, cortisone, ACTH, oxygen and any drugs or medicines prescribed by a medical practitioner or dentist and obtained from a licensed pharmacist.

3. Payments for an artificial limb, spinal brace, brace for a limb, hearing-aid, wheelchair or iron lung; payments for laboratory or other diagnostic services prescribed by a medical practitioner or dentist, eye glasses and artificial eyes; payments for a rocking bed for a poliomyelitis victim, crutches, ileostomy or colostomy pads and a truss for a hernia.

In addition, taxpayers may include as medical expenses the remuneration of one full-time attendant or the cost of full-time care in a nursing home if incapacitated for the whole of a 12-month-period and confined to a bed or wheelchair, or if totally blind and requiring the services of an attendant and the cost of ambulance transport to or from public or licensed private hospitals.

Doctors who have patients who incur any of these medical expenses in amounts likely to exceed 3% of their net income may do them a service by reminding them of their entitlement and, it goes without saying, by providing them with receipts for the professional fees which are involved. A.D.K.

PROVINCIAL NEWS

BRITISH COLUMBIA

A new microchemistry laboratory has been established in the Vancouver General Hospital. It will enable detailed blood chemistry studies and will be of especial value in the work of pædiatricians. This service will obviate the necessity for taking relatively large blood specimens in quantities which cannot be spared by infants, often debilitated and deprived of their scanty body fluids by disease.

Dr. E. T. English, who has been assistant clinical pathologist at the Vancouver General Hospital for the past five years, will be the head of the new laboratory. This development is hailed with approval by Dean McCreary of the U.B.C. Medical School, himself a well-known pædiatrician. He regards it as a considerable advance in pædiatric procedure, which has been needed for a long time.

In view of the increasing interest being taken by the medical profession everywhere in the use of hypnotism, it may be of general interest to record an application of this relatively new addition to our therapeutic armamentarium.

Dr. G. J. Gibson of Chilliwack, where we understand he is connected with various agencies giving aid to mountain climbers and other adventurers, was called to the help of a climber who had scaled the 8200-foot Mount Slesse. He had in some way dislocated his shoulder, and Dr. Gibson had to climb some 5600 feet to reach him. The man objected very strongly to the use of drugs of any kind, since he had to get back down the mountain. The doctor therefore suggested hypnotism, used it successfully, and reduced the shoulder; the man walked down the trail unaided.

Dr. Fred W. Brydone-Jack, who died recently, was Vancouver's first medical health officer for schools. At the time he assumed this position some 35 years ago, he had 11 schools under his care. Today there are 81 schools in Vancouver City; 65 primary or elementary schools and 16 secondary schools.

Plans for a school for training medical laboratory technicians are under consideration by the B.C.H.T.S., to be established in connection with the Royal Inland Hospital at Kamloops. The laboratory of this hospital is a regional laboratory serving many hospitals in this area of the Okanagan. Such a school is greatly needed, as all students wishing to take this training must at present go to Vancouver or to Eastern schools.

J. H. MACDERMOT

ONTARIO

The University of Toronto has announced that Dr. Louis Siminovitch has been promoted to the rank of professor in the Department of Microbiology and Mrs. J. F. M. Hoeniger to assistant professor.

Dr. J. B. Firstbrook, formerly associate director of field studies in the Department of Public Health, has been appointed associate professor in the Department of Physiological Hygiene. Dr. J. E. F. Hastings has been promoted to associate professor in the Department of Public Health.

The University of Western Ontario has announced that a $500,000 cancer research laboratory will be in operation at the University in July 1961. This laboratory will follow the pattern set by establishment of similar bodies at the Universities of Saskatchewan and British Columbia.

The Ontario Cancer Society will finance the building and equipping of the laboratory; the Canadian Cancer Institute will support research and provide staff, and the university will recruit research personnel.

Dr. A. Cameron Wallace will be the director of the new laboratory. LILLIAN A. CHASE

ABSTRACTS *from current literature*

MEDICINE

Intestinal Gas and Bloating: Treatment with Methyl Polysiloxane.

J. A. RIDER: *Am. Pract. & Digest Treat.*, 11: 52, 1960.

Abdominal bloating, distension and excessive gas are among the most common complaints of patients attending a gastroenterology clinic. Three major causes of these symptoms are: (1) Aerophagia, which accounts for about 70% of the gas in the intestinal tract. (2) Liberation of carbon dioxide by the interaction of gastric acid with alkaline foods or carbonated beverages in the stomach, or by the reaction of acid chyme from the stomach upon the carbonates in the juices of the small intestine. In the colon, the gas content may be further augmented by fermentation and decomposition of ingested foods. (3) Extreme changes in atmospheric pressure or breathing of abnormal gases which may become a hazard of high altitude flight or space travel.

During a large series of gastroscopic examinations, bubbles representing hundreds of small pockets surrounded by thick and adherent mucus were observed in the stomachs of a large percentage of patients. In an attempt to change the surface tension of these bubbles, enabling them to coalesce and form free gas which could be more easily expelled by belching or as flatus, a silicone defoamer, methyl polysiloxane, was administered as a 40 mg. tablet after meals and at bedtime, to 117 patients for periods of four weeks to two and a half years. It was reported that 72% obtained "good or excellent" results. Of 20 patients who had experienced relief on this treatment and were then given a lactose placebo in its stead, 18 noted a recurrence of symptoms within 24 hours.

Silicone fluids spread easily, and provide a surface film for keeping "tacky" materials from sticking together. They are water-repellant, are not affected by enzymes, and do not support bacterial growth. Methyl polysiloxane has a low order of toxicity and in the patients in this reported series no side effects or changes in blood, urine or bowel habits were noted. Preliminary studies on the use of methyl polysiloxane in the treatment of postoperative gaseous distension and infant colic have been encouraging.

Clinical, Metabolic and Endocrinologic Effects of Abrupt Cessation of Maintenance Cortisone Acetate Therapy in Rheumatoid Arthritis.

E. CALKINS, L. L. ENGEL, D. M. MITCHELL, P. CARTER AND W. BAUER: *Arthritis & Rheumat.*, 3: 204, 1960.

Three adult male patients who had been on cortisone acetate maintenance therapy for about three years were studied intensively to determine the effect of abrupt cessation of steroid therapy. The clinical manifestations in all three were similar in nature and timing, but tended to differ in intensity. A constant dull frontal headache, aching in muscles (as opposed to joints), and lassitude occurred in 16 to 24 hours and increased on the second and third day. All patients developed anorexia, some vomited on the second day and one patient developed asthmatic breathing.

All exhibited increased activity of their arthritis on the second day with effusions and increased stiffness. These manifestations increased and were accompanied by some elevation in temperature. By the fourth or fifth day anorexia subsided, and the sense of well-being returned but the activation of the arthritis persisted.

In all patients abrupt cessation was followed by a moderate sodium retention and increased plasma volume. The excretion of cortisol in the urine diminished rapidly on the first day and increased again on the fourth day following cessation of cortisone therapy. It was suggested that the delay in resumption of normal adrenal function was due to both adrenal insufficiency and to a lesser extent pituitary insufficiency. P. S. ROSEN

The Calcified Hilar Node.

J. STORER AND R. C. SMITH: *Am. Rev. Respiratory Dis.*, 81: 858, 1960.

Calcification of mediastinal lymph nodes is of common occurrence, and is noted in patients after the appearance of certain granulomatous lesions. Although it had been commonly thought that tuberculosis was the most frequent cause, this is not necessarily true in certain localities where, on careful examination of calcified nodes, *Histoplasma capsulatum* has been found.

Irrespective of initial cause, what follows the phenomenon depends upon the anatomical location of the calcified nodes. Nodes in contact with a bronchus may gradually erode its wall. In other instances the node may compress the bronchus and produce atelectasis. Traction diverticulum of the œsophagus and compression of the superior vena cava are possible. The clinical picture associated with each lesion is clearly recognizable and in most cases can be satisfactorily managed. Chronic cough or dysphagia should not be lightly regarded. Either of these symptoms may be due to calcified nodes. Special studies such as bronchography or laminography may demonstrate the anatomical relation of node and bronchus, œsophagus or vena cava.

A high degree of awareness must be maintained in order that effective therapy be instituted. S. J. SHANE

Persistence of the "Hydralazine Syndrome"—A Follow-Up Study of Eleven Cases.

E. A. HILDRETH, C. E. BIRO AND T. A. MCCREARY: *J. A. M. A.*, 173: 657, 1960.

Hydralazine is known to produce a syndrome simulating rheumatoid arthritis or systemic lupus erythematosus (S.L.E.) in some 7% to 13% of patients receiving this drug for prolonged periods. The first phase of this syndrome, with features resembling rheumatoid arthritis, is characterized by chills, migrating arthralgia and subsequently frank arthritis. If the drug is continued, it progresses to a phase resembling lupus erythematosus, manifested by fever, prostration, effusions into pleura, pericardium or synovium, and erythema with skin sensitivity to ultraviolet light, splenomegaly and lymphadenopathy.

The authors' follow-up study of 11 patients reported that some symptoms and signs persisted for years after the drug had been discontinued. In one case, seven years after cessation of hydralazine therapy, there was still occasional mild aching of the knees, persistent elevation of the erythrocyte sedimentation rate, and on one occasion an L.E. preparation contained questionable L.E. cells. Hepatosplenomegaly persisted in three patients, two of whom continued to show active rheumatoid-like arthritis. In five of the patients, chest pain of a type not previously described in this syndrome, was noted. W. GROBIN

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Recent Serological Tests for Rheumatoid Arthritis.

W. M. MIKKELSEN, I. F. DUFF, L. GOODSON, W. H. COULTER AND C. HERTZ: *Ann. Int. Med.*, 52: 1051, 1960.

Approximately 1000 serum specimens were examined for the presence of "rheumatoid factor". The serological procedures utilized included modifications of the sensitized sheep erythrocyte agglutination test, the latex fixation test, and the bentonite flocculation procedure. Technically, all were considered to be satisfactory for performance in a laboratory accustomed to routine serological procedures. The latex and bentonite procedures were much less time-consuming and expensive. Although the individual test procedures appeared to vary somewhat with respect to sensitivity and specificity, they were considered to provide essentially similar information. The prevalence of positive results in a group of 171 patients with classic or definite rheumatoid arthritis by the American Rheumatism Association diagnostic criteria varied from 65% to 81%, with the various methods. With each procedure the prevalence of positive results was somewhat higher in the 52 patients with subcutaneous rheumatoid nodules, ranging from 74% to 94%.

Since an appreciable number of cases of definite rheumatoid disease are not associated with positive reactions, it became apparent that a negative serological test result should not eliminate this diagnosis from consideration. All procedures gave predominantly negative results in cases of probable and possible rheumatoid arthritis. Positive results in these doubtful or difficult diagnostic situations cannot be considered to be pathognomonic, since there are no adequate criteria for comparison. The significance of positive (or negative) results in such cases must at present depend upon continued close clinical observation. Occasional "false-positive" reactions occurred with each procedure. When persistently or strongly positive, these reactions should be regarded as abnormal and appropriate investigative studies undertaken. S. J. SHANE

Chlorothiazide and Insulin Requirements of Pregnant Diabetic Women.

M. LAKIN, I. ZEYTINOGLU, M. D. YOUNGER AND P. WHITE: *J. A. M. A.*, 173: 353, 1960.

Chlorothiazide has been used at the Joslin Clinic in the treatment of pregnant diabetics since 1958. In all, 61 patients have been so treated throughout the course of their pregnancy.

The present study was undertaken to determine whether chlorothiazide, being a sulphonamide, affected the requirements of insulin. For purposes of comparison, an equal number of patients who had been treated with ammonium chloride and acetazoleamide (Diamox) were chosen at random from among the pregnant patients observed during the year 1955. In this control group, the total gain of weight on the average was 14.4 lb. per woman, whereas in the chlorothiazide group the average gain was 13.0 lb. per woman. The insulin dosage increased in both groups by 65% over the initial dose. There were no long-term effects of chlorothiazide on the insulin dosage after delivery, or on the potassium level of the serum. It was believed that the high potassium content of the pregnant women's diets accounted for the maintenance of normal serum potassium levels. The inclusion of 2 g. of salt in this diet makes less sodium available for exchange with potassium at the distal tubule. Thus there is no need to administer supplements of potassium chloride.

W. GROBIN

Physical Activity of Patients After the Onset of Acute Cardiac Infarction.

K. A. J. JÄRVINEN: *Brit. M. J.*, 1: 922, 1960.

Observations are presented on the activities, especially the physical exertions, of 102 men and 31 women with acute myocardial infarction, from the onset of the attack to the time when medical aid was sought. Several case histories are included. The average age of the men was 51.4 years and of the women 62 years. All were admitted to the emergency ward of the Maria Hospital, Helsinki, Finland.

Detailed study of the histories showed the following: Only 28% of the men stopped all physical activity at once or soon after the onset of the attack. As many as 72% kept moving. Some walked long distances. Others remained at work, often straining will-power to the utmost. The women differed radically in their response. Most of them (about 77%) stopped physical activity immediately. Of the 38 men who were at work when the attack occurred, 21 stopped immediately. Seven women were working away from home; all stopped work at once. The men's defiance of pain was reflected also in the mode by which they proceeded to the doctor or hospital. Nearly half of the men (48) walked to the medical centre or went partly on foot and partly by bus or train. The women took a more realistic view. All but two called a physician or were taken by car or ambulance to the hospital. The response of men under 60 years of age was as unwise as that of those over this age. The older men seemed to defy pain more.

It is suggested that the unwise response to the symptoms of acute myocardial infarction, especially obvious in the men, might be a contributing factor in the mortality for this disease. The difference between men and women in their response to symptoms, which was revealed in the present investigation, may in part account for the high mortality from acute myocardial infarction among men in Finland.

MARGARET H. WILTON

Laboratory and Genetic Observations in Another Family with the Hageman Trait.

J. H. THOMPSON, J. A. SPITTEL, C. A. PASCUZZI AND C. A. OWEN: *Proc. Staff Meet. Mayo Clin.*, 35: 421, 1960.

The Hageman trait or lack of so-called Hageman factor is a very rare and puzzling abnormality of blood coagulation characterized by greatly prolonged coagulation time but no clinical evidence of abnormal bleeding. Since the initial report by Ratnoff and Colopy in 1955, a total of 17 cases has been reported. In only three reported instances has this abnormality been found in more than one member of a family; in all of these it was found only in siblings. The authors report a study of 15 members of one family, three of whom were found to lack the Hageman factor. These three were siblings; a fourth sibling showed no deficiency of this factor. All coagulation studies in the parents and parental relatives were normal. Genetic studies confirmed the impression that the Hageman trait is inherited as an autosomal recessive. Six types of fowl were found to have a defect in blood coagulation resembling the Hageman trait. None of 13 common mammals tested, including the horse, lacked Hageman factor. These observations indicated that the blood of readily available fowl would be useful in the laboratory to aid in the diagnosis of the Hageman trait.

Subcutaneous Fat Necrosis Associated with Acute Pancreatitis.

A. B. SWERDLOW, M. E. BERMAN, M. I. GIBBEL AND J. VALAITIS: *J. A. M. A.*, 173: 765, 1960.

The association of subcutaneous fat necrosis and polyarthritis with acute pancreatitis is illustrated by the medical histories of three patients. This association is believed to be more frequent than the paucity of reports in the literature would indicate. Laboratory findings included high serum amylase levels which remained elevated for a considerable length of time. Microphotographs of skin biopsies showed necrosis of subcutaneous fat tissue in one case, and fat necrosis surrounded by calcification, inflammation and fibrous tissue proliferation in another. The left pleural cavity of one patient who came to autopsy showed subpleural fat necrosis. The clinical appearance of subcutaneous fat necrosis may suggest cellulitis, periarteritis nodosa, acute thrombophlebitis or allergic reactions.

W. GROBIN

Postnecrotic Cirrhosis Without Antecedent Acute Liver Disease.

A. S. WEISSBEIN AND N. M. SCOTT: *A.M.A. Arch. Int. Med.*, 106: 71, 1960.

Of 22 patients with histologically proven postnecrotic cirrhosis of the liver only six had an acceptable past history of acute infectious hepatitis. In the other 16 no infectious, toxic or nutritional factors were elicited in their background to explain the final pathological picture. Many of these patients were young people seen by a physician for the first time because of serious complications of hepatic cirrhosis, such as hepatoma, ascites, or severe bleeding from œsophageal varices. The authors believe that infectious hepatitis may play an important etiological role in some cases of postnecrotic cirrhosis and that a few cases may result from anicteric forms of infectious hepatitis. They conclude that the majority arise from causes as yet undetermined.

Clinical Importance of Exfoliative Gastric Cytology.

K. SEPPALA, M. LEHTINEN AND W. J. KAIPAWEN: *Ann. med. int. Fenniae*, 49: 87, 1960.

Both roentgenography and gastroscopy complement one another in the diagnosis of gastric cancer. Nevertheless some cases escape detection by these methods. Examination of cells exfoliated from the stomach mucosa forms an additional method of study of value in diagnosis. In major centres 80% to 90% of gastric cancers have been confirmed cytologically, the number of false positive reports being less than 1%. In the authors' study specimens of cells for cytological study were obtained by chymotrypsin lavage and stained by Papanicolaou's method.

Of 31 patients with subsequently confirmed gastric cancer, 26 had radiological findings diagnostic of, or suspicious of this lesion. Roentgenographic study was negative in five cases. In two of these five, study of the exfoliative gastric cytology was diagnostic of carcinoma and in two others it was suspicious. This technique is time-consuming and requires considerable experience on the part of the pathologist who provides the cytological reports, before these can be considered reliable. Nevertheless the authors consider that in experienced hands the study of exfoliative gastric cytology is a useful adjunct to radiographic and gastroscopic investigations which may facilitate earlier diagnosis of gastric carcinoma in cases in which this diagnosis is not confirmed by other investigative techniques.

SURGERY

Premarin Intravenous in Prostatic Surgery.

C. K. BOBELIS: *Illinois M. J.*, 117: 231, 1960.

The hæmostatic effect of Premarin in the control of bleeding during and after prostatic surgery was studied in a series of 80 patients, divided into three groups. One group received Premarin Intravenous postoperatively, a second group received the same medication preoperatively and the third group served as controls. Results indicated that Premarin Intravenous is an effective, practical and safe method of controlling excessive postoperative bleeding, the urine being clear of blood within 24 hours after the injection in 28 of 30 patients. Administration of this drug the evening before operation was associated with reduction of bleeding at operation to a minimum, facilitating operative technique in transurethral resection. In open surgery on the prostate, however, such preoperative therapy did not appear to have appreciable benefit. The author recommends routine administration of 20 mg. Premarin Intravenous the evening before operation to help control excess bleeding associated with any prostatic surgery, particularly in the case of transurethral resection.

Cancer Cells in the Blood Stream.

L. LONG, S. ROBERTS, R. MCGRATH, E. MCGREW AND W. H. COLE: *A.M.A. Arch. Surg.*, 80: 639, 1960.

A method of isolating cancer cells from whole blood and use of Papanicolaou's technique was employed in a study of blood samples from patients without malignancy, and from others with malignant disease of at least three years' duration. Blood samples from patients with apparently curable cancers showed that 23% had cancer cells in the blood from the antecubital vein as compared with 33% of the patients with "incurable" cancers. If the blood sample was taken from veins draining the tumour site, the finding of tumour cells increased to 28% in the "curable" cases and 39% in the "incurable". Of the 50 pædiatric cases in the series 50% showed cancer cells in the blood stream. There was no correlation between duration of symptoms and the finding of tumour cells in the blood. Samplings before, during and after such operations as dilatation and curettage, radical mastectomy and nephrectomy, showed some patients to have cancer cells in the blood stream only during the surgical procedure and some to have an increased number during, but a marked decrease after the operation. A third group of patients, mostly having non-resectable cancers, showed positive blood samples before and after operation but a decrease in circulating tumour cells during surgery. Anti-cancer chemotherapy was usually followed by a decrease in the number of malignant cells in the blood within three to eight days for a varying length of time and the same observation has been made during x-ray therapy. Blood sampling may be used to determine *in vivo* sensitivity of a specific tumour to a specific drug in a specific patient.

In every patient with gastro-intestinal malignancy in whom a positive blood sample was obtained from the antecubital vein, the cancer has been found to be non-resectable or "incurable". This seems to implicate the liver in the probable role of destroying cancer cells.

Showers of cancer cells in the blood have been demonstrated during physical examination, diagnostic

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procedures such as D. & C., skin preparation for surgery, and operative manipulations. No explanation is offered for the decrease in positive samples during and after operation on a non-resectable tumour.

Again, the importance of tying of the veins draining the site of the tumour as the first procedure in an operation for cancer is emphasized. Similarly, physical manipulation in cancer cases should be minimal.

BURNS PLEWES

Isolation of Osteogenic Sarcoma Cells from Peripheral Blood After Biopsy: An Experimental Report and Clinical Note.

L. F. A. PETERSON, J. M. JANES, P. J. KELLY AND G. L. PEASE: *Proc. Staff Meet. Mayo Clin.*, 35: 443, 1960.

Biopsy of a histologically typical osteogenic sarcoma in a dog was carried out on two separate specimens of tissue. Microscopical examination for tumour cells was performed on blood specimens removed from below the tourniquet and after release of the tourniquet. Equal amounts of blood drawn before the biopsy from an uninvolved forelimb on one occasion and from a regional vein on the other occasion failed to reveal neoplastic cells. After the tourniquet was released, blood aspirated from the regional vein was found to contain neoplastic cells. It is known that neoplastic cells may embolize from the site of origin without unusual trauma. Application of the tourniquet in this experiment for approximately 15 minutes might have resulted in the finding of neoplastic cells in the regional vein after release of the tourniquet, by pooling those cells which might have embolized during the time the circulation was occluded. Trauma of the biopsy was another possible factor in release of neoplastic cells into the blood stream. The authors recommend that biopsy of malignant tumours of the extremities should be performed under tourniquet whenever possible, and when indicated, definitive ablative operations should be carried out without releasing the tourniquet.

Some Metabolic Studies in Quadriplegia following Spinal Cord Injury.

A. J. ARIEFF, S. W. PYZICK, E. L. TIGAY AND J. BERNSOHN: *Illinois M. J.*, 117: 219, 1960.

Sixty-eight quadriplegic patients were subjected to various metabolic and biochemical studies which revealed the following: Some degree of variation from normal was noted in the blood protein fractions; globulin values were lowered in all groups studied with corresponding alteration in A/G ratios. Serum glutamic oxaloacetic transaminase levels were also lowered. Changes in erythrocyte count, hæmoglobin concentration, blood calcium, fasting blood glucose and alkaline phosphatase activity were insignificant. Leukocyte counts were increased, probably related to infections. This study therefore failed to confirm the presence of the many severe metabolic disturbances, specifically in calcium and protein metabolism and electrolyte balance, which have been documented in the literature since World War II. Only minor defects in homœostasis occurred in these patients who were treated early and intensively with active physical therapy, early ambulation, attention to modern nutritional principles and prevention of bed sores and infections.

THERAPEUTICS

Irreversible Renal Failure following Short-Term Therapy in Sarcoidosis.

H. S. BALLARD: *A.M.A. Arch. Int. Med.*, 106: 112, 1960.

A 48-year-old Cuban-born male developed irreversible renal damage after the administration of 1,200,000 units of vitamin D over an eight-day period. A diagnosis of cutaneous sarcoidosis had been established by skin biopsy, and vitamin D_2 was administered in view of previous reports that a beneficial effect on sarcoid lesions of the skin had been observed after the administration of calciferol. Ectopic calcification, renal calculi and nephrocalcinosis were noted as complications of such therapy in the case reported. Steroid therapy was effective in reducing the ectopic calcium deposits but was associated with little improvement in renal function.

The author observed that the experience provided in this case dictates an attitude of caution, perhaps of prohibition, in the use of calciferol in treatment of sarcoidosis, since relatively small doses ingested over short intervals may result in serious and irreversible damage, and since interruption of vitamin D therapy at the earliest sign of intoxication may not necessarily avoid delayed renal damage.

OBSTETRICS AND GYNÆCOLOGY

Culdoscopy.

A. B. BROWN AND K. M. CROCKER: *Am. J. Obst. & Gynec.*, 80: 25, 1960.

A study of 205 culdoscopic examinations carried out on 203 patients is presented. The culdoscope has proved to be a very worthwhile diagnostic aid to the gynæcologist. It is of most use in patients complaining of unexplained abdominal or pelvic pain but is also a help in the investigation of patients suspected of having endometriosis, ectopic pregnancy, pelvic inflammatory disease or some endocrinological disorder. The instrument is only occasionally of value in the investigation of pelvic masses or infertility. For the gynæcological staff of the authors' hospital the culdoscope has taken a place of value almost comparable to the urologist's cystoscope.

ROSS MITCHELL

Nuclear Morphology of Human Spermatozoa.

L. B. SHETTLES: *Obst. & Gynec.*, 16: 10, 1960.

Viewed in phase contrast, dried unstained spermatozoa fall into two distinct populations regarding head and nuclear size, shape, diffraction of light and chromosomal pattern. The relative sizes and shapes of the most centrally located chromosomes indicate that the smaller-headed spermatozoa contained the Y chromosome and the larger the X.

ROSS MITCHELL

Maternal Death Due to Disseminated Varicella.

S. A. FISH: *J. A. M. A.*, 173: 978, 1960.

Four fatal cases of chickenpox during pregnancy are reported. It is not generally appreciated that chickenpox in adults is a potentially fatal disease. Awareness of this fact should bring about earlier diagnosis of cases of disseminated varicella with pneumonitis. Routine chest radiographs should be performed on all adult patients with chickenpox. A plea is made for earlier hospitalization of patients with disseminated varicella.

ROSS MITCHELL

Sperm Migration and Uterine Contractions.
W. BICKERS: *Fertil. & Steril.*, 11: 287, 1960.

In the absence of uterine contraction, sperm ascent in the human uterus is impossible. This is demonstrated in a case study in which the subject had had both ovaries removed and the uterus left in place. Through the nonmobile uterus sperm ascent was impossible, but when uterine contractions were induced by œstrogen therapy, sperm ascent occurred promptly.

Sperm migration through the cervical canal is accomplished by the spermatozoon itself. Uterine contractions are essential for sperm ascent above the internal os.

ROSS MITCHELL

Volvulus Associated with Pregnancy.
H. ZILLIACUS: *Acta obst. et gynec. scandinav.*, 39: 106, 1960.

Attention is drawn to the occurrence of volvulus causing intestinal obstruction during pregnancy. Although rare, it is a very dangerous complication because of the bad prognosis for mother and child.

A review of the literature brings the number of cases reported hitherto up to 94. The greater number of cases occur in multigravidæ in late pregnancy and the sigmoid colon is most commonly involved. The etiology is obscure in many cases. Symptoms are those of intestinal obstruction. The overall mortality rate is approximately 30% for mother and child but the mortality of cases not treated surgically is 100%. The author describes a personally observed case. The volvulus occurred at term of a second normal pregnancy and involved the sigmoid colon. The initial symptoms simulated premature separation of the placenta with concealed bleeding. The patient was delivered of a live baby by Cæsarean section. A spontaneous untwisting of the volvulus occurred.

ROSS MITCHELL

BACTERIOLOGY

Susceptibility of Hæmophilus Influenzæ.
H. A. HIRSCH, M. FINLAND AND C. WILCOX: *Am. J. M. Sc.*, 239: 33, 1960.

There is a growing interest in the potential decrease in susceptibility of various pathogenic organisms to the antibiotics that are in common use. Much of this interest has been due to the increasing proportion of strains of *Staphylococcus aureus* found resistant to some of the most widely used antibiotics. The possibility must always be considered that exposure of large numbers of the population to these antibiotics has resulted in the acquisition of resistance by the bacteria or in the gradual elimination of the more susceptible strains, permitting the more resistant ones to spread. It is, therefore, important to review the status of some of the common varieties of potential pathogenic bacteria from time to time in order to be able to anticipate possible difficulties in antibiotic therapy. *Hæmophilus influenzæ* is a suitable organism for such surveillance. Strains of this organism have all been moderately or highly susceptible to all of the widely used antibiotics except bacitracin. They are frequently found in the nasopharynx of infants and children and in the respiratory tract of adults without evident infections, and may give rise to serious respiratory infections and meningitis in infants and to acute respiratory tract infections or exacerbations of chronic bronchopulmonary infections in older age groups.

In this study, strains of *Hæmophilus influenzæ* isolated early in 1959, mostly from the respiratory tract of hospitalized patients, were tested for *in vitro* susceptibility to 21 antibiotics, including several that had been used for similar tests in 1949 and 1954. The results obtained with the strains isolated in 1959 were similar to those obtained with some of the same antibiotics in the two earlier studies. It may be concluded that there has been no significant change in the antibiotic susceptibility of strains of *H. influenzæ* during the past 10 years. Most of the newly introduced antibiotics are about as active against *H. influenzæ* as those that were previously available, but some of the erythromycin-like antibiotics are much less active. The four tetracycline analogues all have very similar activity, and there are only slight, and probably not significant, differences in the activity of streptomycin, neomycin and kanamycin against strains of *H. influenzæ*.

S. J. SHANE

Susceptibility of Gonococci to Antibiotics and Sulfadiazine.
H. A. HIRSCH, M. FINLAND AND C. WILCOX: *Am. J. M. Sc.*, 239: 41, 1960.

There has been much concern recently about the increasing proportion of treatment failures in cases of gonorrhœa and about the progressively larger doses of penicillin that seem to be required to effect cures in apparently uncomplicated cases. A few of the reports also present acceptable evidence for some recent decrease in the susceptibility to penicillin of strains of *Neisseria gonorrhœæ* isolated from patients that appear to be correlated, to some extent, with failures of penicillin treatment in the patients. In addition, there are also reports of failure of treatment with apparently adequate doses of streptomycin and other antibiotics. Previous studies by these workers had failed to reveal any important increase in resistance of gonococci to any available antibiotics, including penicillin. Moreover, tests with sulfadiazine indicated that there were fewer strains of gonococci resistant to this agent among those isolated and tested in 1953-1954 than among those tested in 1949. The present report deals with tests of the susceptibility of strains of gonococci isolated late in 1958 and early in 1959 from the cases of acute male urethritis employing the same methods and antibacterial agents as in the previous studies and additional antibiotics that have become available since the last report. Strains of gonococci isolated from August 1958 to February 1959 were tested for sensitivity to 20 antibiotics and sulfadiazine. With the exception of penicillin and sulfadiazine, each of the agents inhibited all of the strains tested within a fairly narrow range of concentrations. Different antibiotics varied quantitatively in their activity, but there were only minor differences in the susceptibility of the strains to chemically related antibiotics, except in the case of those related to erythromycin, which varied quite widely in their activity. Strains isolated from patients soon after treatment with penicillin were among the least susceptible to that antibiotic. The recent strains were nearly all highly or moderately susceptible to sulfadiazine. Comparison of these results with the findings reported in previous years show no evidence of any large decrease in susceptibility of gonococci to any of the antibiotics that have been in use during the past few years.

S. J. SHANE

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PATHOLOGY

The Liver in the Aging Process.

R. D. CARR, M. J. SMITH AND P. G. KEIL: *A.M.A. Arch. Path.*, 70: 1, 1960.

It has long been known that the weight of the liver decreases gradually with age. More recently it has been demonstrated that the majority of apparently healthy persons over 65 show abnormal results in one or more of the usual tests of liver function. The authors demonstrated intranuclear and nuclear changes in liver cells of aged humans in confirmation of previous reports. There were marked variations in parenchymal cell size and in nuclear size and colour in most of the specimens studied. A small number from one age group displayed cellular characteristics usually seen in the other age groups. Another large group showed minimal equivocal changes which may represent an intermediate phase in liver cell aging and which did not completely reflect the age of the patients. There was no change in correlation between the patient's chronological age and "liver age" when organic liver disease was present. Thus the changes of aging in the liver do not seem to be due to unusual hepatic trauma over a lifetime, but rather to some universal process as yet unknown. No increase in connective tissue stroma and no periportal cell infiltrations were evident in normal aged livers. Senile hepatic change previously described included (a) giant parenchymal cells, (b) giant, hyperchromatic, irregularly shaped, aberrant nuclei in parenchymal cells, (c) multiple nucleoli, (d) large, round or oval, poorly staining, homogeneous appearing inclusion bodies within cell nuclei, (e) binucleated cells and (f) clear perinuclear zones.

Muscle Cells, Aschoff Bodies, and Cardiac Failure in Rheumatic Heart Disease.

G. E. MURPHY: *Bull. New York Acad. Med.*, 35: 619, 1959.

It is now widely believed that the primary and essential alteration in myocardial Aschoff bodies is in the collagenous framework; and the origin of the cells so characteristic of Aschoff bodies has been variously attributed to both endothelial and adventitial cells of blood vessels, histiocytes (Anitschkow myocytes) and undifferentiated mesenchymal elements. After extensive histological studies, Klinge concluded that the primary lesion is a change in the interfibrillary ground substance of the collagen fibre. In contrast to this, from observations of myocardial lesions closely resembling Aschoff bodies, experimentally induced in rabbits by repeated focal infections with Group A Streptococci, Murphy, in this paper, concludes that Aschoff bodies originate from muscle cells. He states that the mono-, multi-, and non-nucleated structures characteristic of these lesions are of two types: (1) damaged muscle cells or fragments thereof, and (2) syncytial masses of myogenic origin that proliferate from inside the sarcolemma into the tracks of disintegrating muscle cells. He points out that the myofibres occur singly, in small aggregates or in small bundles, like Aschoff bodies, in the interstices between larger bundles of myofibres and in close proximity to blood vessels.

This theory would account for the presence of Aschoff bodies in the myocardium and their absence in other affected parts of the body. As to the "fibrinoid" alteration, he points out that collagen in the scarred cirrhotic livers of patients with rheumatic fever also stains like fibrin. Murphy found that changes seen in the auricular appendages were not really of the endocardium but of the subendocardium. Further, the large cells in auricular subendocardium that MacCallum described as being "forced into rows" between elastic fibres are smooth muscle cells which are normally present there in rows or strata.

RADIOLOGY

Neoplasia Following Therapeutic Irradiation for Benign Conditions in Childhood.

E. L. SAENGER, F. N. SILVERMAN, T. D. STERLING AND M. E. TURNER: *Radiology*, 74: 889, 1960.

A study of the possible effects of x-radiation and its importance as a possible factor in induction of new growth was initiated in 1956 in the Cincinnati area. It is recalled that it was in Cincinnati that the first case of treatment by x-ray for "enlarged thymus" was reported in 1907, a treatment which had enjoyed considerable popularity until recently. Routine diagnostic x-ray examinations were carried out among newborn infants, and children about to undergo anæsthesia, and a wide mediastinal shadow was often sufficient indication for treating the child by x-ray.

The present study consisted of an interview of each family by a nurse familiar with radiation therapy, and with special training in public health. The families were chosen from records of 2230 treated patients of four Cincinnati hospitals. In all, 1512 families were interviewed, adequate histories being available in 1644 patients and their 3777 siblings, who were used as controls. Of the total of 29 malignant conditions, 18 were found in the irradiated group and 11 in the siblings. Exclusion of those with malignant disease after the age of 23 years left 17 cases in the patient group: 11 with carcinomas of the thyroid, one each with carcinoma of the parotid gland, submaxillary gland, nasal vestibule, and breast, one with glioblastoma multiforme of the brain, and one with leukæmia. Among the siblings, six cases of malignant neoplasm were found in those under the age of 21. These included three cases of leukæmia, and one each of myosarcoma of the leg, fibrosarcoma of the lip and angiosarcoma of the orbit. There were no cases of thyroid cancer among the siblings.

The patients had a higher incidence of disabling disease than the controls, particularly with regard to circulatory diseases and diseases of the respiratory and nervous systems and blood-forming organs. On the other hand mortality figures were higher among the siblings than among the patients.

Four earlier studies concerning the question of neoplasia following irradiation in children are contradictory in their findings and conclusions. The authors believe that radiation is not the only factor responsible for the increased incidence of thyroid cancer in irradiated patients. Although irradiation of the thymus is not used at present to the extent that it was years ago, there are still certain conditions in which radiation treatment is indicated. In the presence of hypertrophy of tonsils and adenoids and of benign neoplasms in the neck area, this treatment can now be made much safer by improved shielding and by smaller doses of radiation.

W. GROBIN

The Use of Gastrografin.

E. SAMUEL: *J. Roy. Coll. Surgeons Edinburgh*, 5: 227, 1960.

Gastrografin is the proprietary name for an iodine-containing, water-soluble medium which can be taken by mouth. Its radio-opacity is imparted by 76% Urografin which is combined with a non-ionic wetting agent and suitable flavouring. Its radiographic density is less than that of barium sulphate, a property which, together with its miscibility with intestinal contents, renders it of considerable value in the investigation of certain gastro-intestinal disorders. Its usefulness was studied by the author in four acute abdominal conditions, viz. hæmatemesis and melæna, perforations and leaks from suture lines, pancreatitis, and intestinal obstructions. In the examination of patients with gastro-intestinal bleeding the use of this medium is neither difficult nor dangerous if meticulous care is taken that the patient's clinical state at the time of examination is controlled, and if the radiological "no-touch" technique is observed. Under these conditions the author found that in the bleeding patient this medium demonstrated duodenal ulcerations quite easily but gastric ulcers were more difficult to detect. When ulcers were demonstrated, a "halo" appearance due to œdema about the crater was a constant finding, and significant spasm in the duodenal cap was conspicuous by its absence.

The solubility and miscibility of Gastrografin made it consistently superior to Lipiodol in outlining perforation tracks and fistulæ arising in the alimentary canal.

In clinically obscure cases of segmental or subacute pancreatitis with inconclusive laboratory results Gastrografin was helpful in some instances in demonstrating enlargement of the retrogastric space, and mucosal deformities in the duodenum and duodeno-jejunal flexure, indicative of an inflammatory mass.

In certain cases of mechanical obstruction of small or large bowel the assessment of the significance of a distended coil of intestine in the plain radiograph was difficult, and in such instances oral Gastrografin facilitated the localization of the bowel loop involved as well as the diagnosis. However, if vascular occlusion of the bowel had occurred, the contrast medium could pass through the affected coil, showing merely a delay in rate of transit.

INDUSTRIAL MEDICINE

Percutaneous Absorption of Toxic Substances in Industry.

F. D. MALKINSON: *Arch. Indust. Health*, 21: No. 2, 87, 1960.

Some industrial poisons are absorbed through the skin either preferentially or as an auxiliary portal of entry. The physiological principles governing percutaneous absorption are reviewed and many examples of such toxic compounds presented. A few of the compounds or groups of compounds are considered fully.

In addition to the physiological principles, study of these compounds demands thorough knowledge of the following: the lipid and water solubilities of the given compound, its tendency to vaporization if not in the gaseous state, its ability to produce inflammatory changes in the skin, which might increase skin permeability, and the rate and extent of absorption of the compound. Factors which may alter the permeability of the skin under industrial conditions are trauma, moisture, and use of strong solvents. Consideration must also be given to added absorption via other routes of entry such as by inhalation, and to the effective means used to prevent significant absorption by these routes.

The mode of action of organic phosphorus compounds, of chlorinated hydrocarbons, and of amines, is discussed, together with reference to cases reported in medical literature, and to certain recommended measures for prevention of absorption. Other toxic substances which have produced poisoning by skin absorption include nicotine, dinitrophenol, hydrogen cyanide, stilbœstrol, nitrobenzene, nitroglycerine, ethylene chlorohydrin, arsenic acid and thioglycolic acid. Among those which have been shown experimentally or, rarely, clinically to be capable of penetrating the skin in toxic quantities, are hydrazine, tetraethyl lead, and carbon disulphide. For certain other compounds such as hydrogen sulphide and trinitrotoluene the significance of percutaneous absorption is doubtful.

Attention is drawn to an important modern industrial hazard: contamination of the skin with radioactive materials. Particular reference is made to appropriate local and systemic decontamination procedures.

Cardiacs Can Work.

E. A. IRVIN: *J. Occup. Med.*, 2: 71, 1960.

Recent studies of employees returning for work after acute coronary occlusion show definitely that cardiacs can work if properly placed. Employment problems thus confronted include: lack of understanding of employment problems by private physicians, together with poor communication between the private physician and the industrial physician; inadequate preparation for work on the part of young cardiacs; apprehension of employers about hiring cardiacs; lack of satisfactory tests to determine an individual's physical capacity to perform work; lack of understanding by the medical profession and by certain segments of management and labour of the value of job placement.

The need for remedying these is stressed and suggests various measures. The author emphasizes the value and scope of proper job placement with particular reference to the practice incorporated in several industrial medical programs, and has drawn attention also to the principles to be followed after evaluation.

In order to remove the present major deterrents to full cardiac rehabilitation and employment, there is a great need for all interested parties—management, labour, private physician, and industrial physician—to study this problem of cardiac disability and deaths in relation to employment, and to make sensible, logical and practical recommendations to legislative bodies in order that cardiacs may be employed without undue risk. There is a similar need for research to develop a better means of evaluating the patient's work capacity. Furthermore, it is necessary for leaders in the labour movement and leaders in industry to recognize that serious obstacles may be included in their collective bargaining agreements. These might interfere with the employment of cardiacs.

The work classification unit, a type of clinic, is now operating in approximately 50 communities. It serves as a medium for training young physicians in their responsibilities in the rehabilitation of cardiacs, and it is to be hoped that methods and procedures learned in these centres will help future groups to carry out similar rehabilitation measures, perhaps on a less formal and less time-consuming basis.

MARGARET H. WILTON

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BOOK REVIEWS

THE PRINCIPLES AND PRACTICE OF MEDICINE. Sir Stanley Davidson. 1112 pp. Illust. 5th ed. E. &. S. Livingstone Ltd., Edinburgh and London; The Macmillan Company of Canada Limited, Toronto, 1960. $6.00.

A medical text which in a period of eight years has gone through five editions and four large reprints, has been translated into Spanish and may, on request, have to be translated into other languages, hardly needs any introduction. The enormous popularity of this book is obvious testimony of its excellence. Since its first edition in 1952, "Davidson's" has been used by thousands of students who have found in it the fundamentals of medicine presented clearly, concisely and in a language discreetly correct and precise. Although the text is mainly directed at British students and practitioners, with emphasis placed on the ecology of disease in Great Britain, most of it is applicable to Canada and even to North America. According to the author: "the selection of the rarer diseases for inclusion and the amount of space devoted to them was based principally on their cultural interest or their educational value as examples of applied anatomy or physiology."

The fifth edition is 45 pages longer than its predecessor. Yet there is far more new material than this number of pages would lead one to expect, since a good deal of matter that was redundant or out-of-date was deleted. In spite of the list of 17 contributors, the book reads, through careful editing, as if it were the work of a single author. No finer tribute could be paid to its preparation. "The Principles and Practice of Medicine" by Sir Stanley Davidson must be placed among the classics of medical literature.

PATHOLOGY OF INFANCY AND CHILDHOOD. A. R. MacGregor, Reader in Pathology of Diseases of Childhood, Edinburgh University, and Pathologist, Royal Edinburgh Hospital for Sick Children. 630 pp. Illust. E. & S. Livingstone Ltd., Edinburgh and London; The Macmillan Company of Canada Limited, Toronto, 1960. $12.75.

As indicated in the preface the purpose of this book is to "give an account of the morbid anatomy and histopathology of disease of infancy and childhood". To quote further from the preface "the book is therefore to a large extent a record of my own experience in general children's and maternity hospitals and the great majority of the illustrations have been made from material that has passed through my hands".

Dr. MacGregor has spent a lifetime in the field of pathology of infancy and childhood and her publications have stressed particularly the neonatal period. Dr. MacGregor's special interest in the newborn period is reflected in her emphasis on the pathology of this period which forms by far the most interesting part of the book. The style of writing makes for easy reading and the book is profusely illustrated, many of the superb illustrations being in colour.

The book, however, is limited not only by the fact that it is based largely on material with which the author herself has worked but also by the fact that the references are almost exclusively to British pædiatric literature. In some chapters important recent work has been completely overlooked. Examples of this occur in the section on urticaria pigmentosa, in which there is no reference to some of the recent work relating to histamine release.

In the section on fibrocystic disease, in which a great deal of interesting pathology has come to light in recent years, the most recent reference is dated 1949. The fact that the book runs to roughly 600 pages makes it convenient to handle and easy to read but has resulted in a very superficial review of some subjects and sketchy reference to many others which are of current interest and importance.

It is interesting to note that nephritis and nephrosis are dealt with under the section of allergy, yet rheumatic fever is not included. The relationship between giant cell pneumonia and measles is hardly touched on in spite of the fact that the etiological relationship has been proved several times. There is no reference to cytomegalic inclusion disease in spite of its growing importance as a pathological entity in pædiatrics. The section on benign and malignant neoplasms is beautifully illustrated and well worth reading.

The arrival of this attractive readable book is a welcome addition to pædiatric literature. It should find a place in the libraries of medical schools, children's hospitals, departments of pathology and on the office shelves of pædiatricians. The definitive textbook on pathology of infancy and childhood has however still to be written.

ANNUAL REPORT OF THE DIRECTOR 1959. Pan American Health Organization. 132 pp. Illust. World Health Organization, Geneva, Switzerland.

This report constitutes a well-documented outline of the program and results obtained in 1959 in promoting better health for the peoples of Latin America. The following two examples illustrate what is being done. Malaria eradication is being accomplished in many areas and is one of the best examples of the progress attained and the influence it has in the well-being of the people. In the field of nutrition an attempt has been made to assure an adequate protein intake. To this end a vegetable mixture has been developed which when mixed into a thin gruel has, in each glass, the approximate protein nutritive value of one glass of milk, as well as a balanced content of other nutrients. This report indicates that advances are being made on a wide front, all of which improve the health and thus the wealth of the people.

EUROPEAN TECHNICAL CONFERENCE ON THE CONTROL OF INFECTIOUS DISEASES THROUGH VACCINATION PROGRAMMES. Rabat, Morroco, October 23-31, 1959. World Health Organization Technical Report Series. No. 198. 21 pp. Illust. World Health Organization, Geneva, Switzerland; Also published in French and Spanish. The Ryerson Press, Toronto, 1960. $0.30.

This is a useful summary of the experiences gained in recent years on the use of the various vaccines and toxoids including a schedule dealing with the proper timing of immunization programs and the antigens which should be used. It is based on European experience in which living attenuated vaccines are recommended for tularæmia and brucellosis. Quadruple vaccine (DPT and polio) is not recommended at present which is contrary to North American experience. There is a useful chart on the requirements of the various countries for vaccination against specific diseases.

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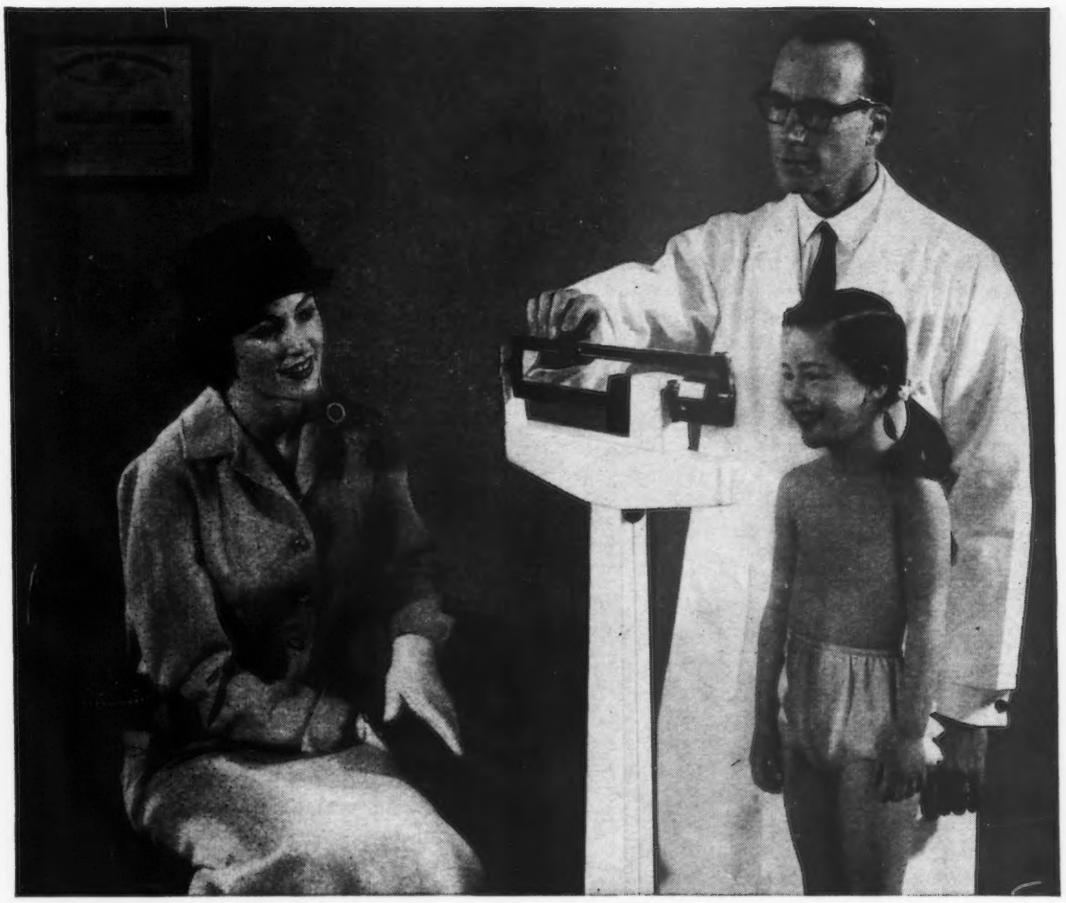

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The authors are of the opinion that Nilevar is a highly useful anabolic agent for influencing weight gain in underweight children.

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*Brown, S. S.; Libo, H. W., and Nussbaum, A. H.: Norethandrolone in the Successful Management of Anorexia and "Weight Lag" in Children, Scientific Exhibit presented at the Annual Meeting of the American Academy of Pediatrics, Chicago, Oct. 20-23, 1958.

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(Continued from page 674)

AN INTRODUCTION TO INDUSTRIAL MYCOLOGY. George Smith, Senior Lecturer, Department of Biochemistry, London School of Hygiene and Tropical Medicine. 399 pp. Illust. 5th ed. Edward Arnold (Publishers) Ltd., London; The Macmillan Company of Canada Limited, Toronto, 1960. $6.75.

"An Introduction to Industrial Mycology" is a formidable title for this concise little volume that deals with a relatively small number of common "mould" fungi which are of particular importance in industry. Many of these same genera of moulds occur as common contaminants in specimens from patients for mycological investigation. Their identification is often difficult and it is in this respect that this book would be of value to the laboratory worker doing medical mycology. In addition, many of the organisms described also occur as human pathogens, e.g. Aspergillus, Mucor, Monilia and Sporotrichum species.

The major portion of the book consists of descriptions and illustrations of the various moulds. The illustrations are remarkably good and in themselves make this book a valuable laboratory asset. Other chapters deal with laboratory equipment and technique, physiology of mould fungi and the maintenance of a fungus culture collection.

In conclusion it must be stated that this is an excellent elementary text for the botanist and industrial laboratory worker. It is not designed for the practising physician and would be of only limited value in a medical bacteriological laboratory.

CARDIAC RESUSCITATION. Edited by J. W. Hurst. 141 pp. Illust. Charles C Thomas, Springfield, Ill.; The Ryerson Press, Toronto, 1960. $6.00.

This monograph is the organized presentation of a symposium held by the Department of Medicine of Emory University School of Medicine and should be required reading for all physicians and surgeons. It is, of course, of particular interest to the cardiologist and the thoracic surgeon. However, it is not merely the specialist in these fields who requires the knowledge contained within this monograph.

It is a matter of actual fact, as the authors contend, that cardiac arrest is a relatively frequent and predictable eventuality. Nevertheless, anyone affiliated with a university hospital is cognizant of the fact that many of his medical and surgical colleagues are not acquainted with the indications and methods of cardiac resuscitation. If this situation exists in the university hospital, it is certainly no better in the regional hospital.

The problem of cardiac resuscitation is discussed from many viewpoints. The physiology of cerebral metabolism and the physiopathology of cerebral anoxia are discussed in terms which are readily understandable by the general practitioner. The causes leading to failure of circulation are given. The types of cardiac arrest, their causes and the appropriate treatments are explored in detail. The indications and limitations of non-surgical cardiac resuscitation are discussed. The problems involved in the prevention of further attacks, particularly in the case of cardiac arrest secondary to Stokes-Adams syndrome, are reviewed. The advantages of a combined monitor-pacemaker with an audible signal and alarm are enumerated.

The technique of cardiac resuscitation by thoracotomy and massage and the equally important aspect of respiratory resuscitation are discussed in detail in separate chapters. A chapter devoted to the role of anæsthetic drugs and errors in their use is included wherein it is stressed that the principal causes of cardiac arrest are, first, the depth of anæsthesia and, secondly, hypoxia. The importance of anticipating and preventing cardiac arrest is emphasized. The final chapters are devoted to cardiac arrest from a legal point of view, which is certainly interesting reading for every doctor, and from the theological point of view. The monograph concludes with a question-and-answer chapter discussing various individual problems and the indications for and contraindications to cardiac resuscitation.

The importance of this book lies not so much in the fact that there is anything very startling revealed within its covers as in the fact that here is a work which should be read by all doctors, particularly all surgical specialists of whatever branch, but also by internists and anæsthesiologists. The book is well organized, complete, and easy to read.

MICROBIAL GENETICS: The Tenth Symposium of the Society for General Microbiology. Edited by W. Hayes and R. C. Clowes. 300 pp. Illust. The University Press, Cambridge; The Macmillan Company of Canada Limited, Toronto, 1960. $7.15.

This is the tenth of a highly successful series of symposia and it describes the recent, exciting and important work on bacteria that is concerned with the fundamental aspects of heredity. It is concerned with the visible elements (the chromosomes), the chemical elements (the nucleic acids) and their physical state, and with their interactions in the synthesis of the fabric of cells (such as the proteins) and the functions of cells (e.g. the enzymic armament). To many this may seem rare material but it is a description of fundamental studies that are indeed critical in the thinking about, and the experimentation upon all kinds of cells. That such fundamental work involves bacteria is an expression of a characteristic of present day biology—the search for suitable models and their exploitation in the elucidation of a complex problem.

For those who are familiar with the field it provides a succinct, but highly technical expression of established phenomena and a stimulating presentation of hypotheses at the base of current experiments. There is new work here, but for the most part, it presents intelligent appraisal and arrangement of published work. It makes no pretence to simplify for the layman, for the non-biologist, or even the biologist without biochemical leanings. This is no defect; it is more of a necessity of the moment. The time will come when expression of these things can be put into more general terms. This difficulty is offset a little by the introductory paper by Stocker on microorganisms in genetical studies.

The coherence of the contributions in the various chapters is remarkably sustained, and it may be suspected is an example of capable handling by the editors, W. Hayes and R. C. Clowes. There is little point in this reviewer giving detailed appraisal of individual efforts—a bias of interest would show itself.

The value of the book is mainly as a stimulus to students in the field and in cognate subjects. It may be valuable to some from outside the field who have sufficient terminological familiarity. It is an example of a stimulating symposium that has been well reproduced in book form.

(Continued on page 678)

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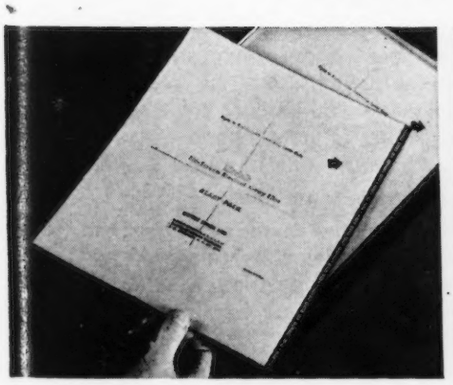

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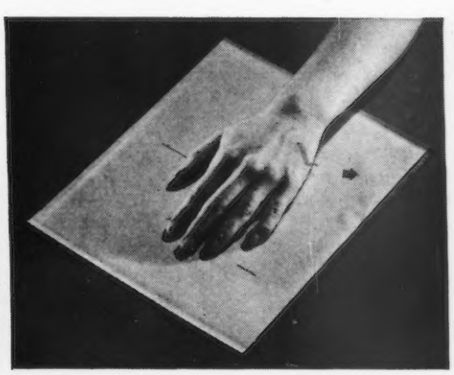

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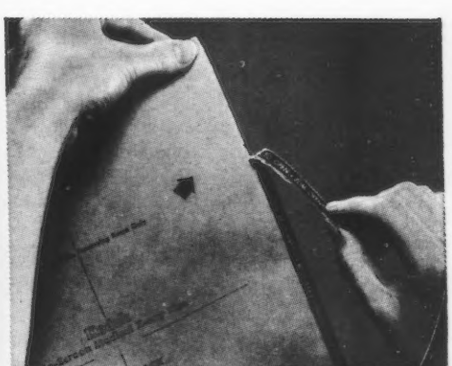

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Canad. M. A. J.
Sept. 17, 1960, vol. 83

(Continued from page 676)

EMERGENCIES IN MEDICAL PRACTICE. Edited by C. A. Birch. 751 pp. Illust. 6th ed. E. & S. Livingstone Ltd., Edinburgh and London; The Macmillan Company of Canada Limited, Toronto, 1960. $7.65.

This practical presentation of medical emergencies by C. Allan Birch is well known and respected on both sides of the Atlantic. The volume, devoid of excess baggage, is lucid, complete, well-printed and maintains the high calibre of five previous editions.

Although some of the topics (in chapter 10 and pages 676-721) have greater applicability to our English confreres, it still has universal appeal.

New chapters and contributors have added to the book's previous usefulness.

The book can be highly recommended to all practitioners.

THE OFFICE ASSISTANT IN MEDICAL PRACTICE. P. M. Frederick and C. Towner. 407 pp. Illust. 2nd ed. W. B. Saunders Company, Philadelphia and London, 1960.

This book is a complete training course for the physician's office assistant. Every aspect of office practice is covered, and a surprising amount of minute detail is offered in clear, concise language. From the operation of a medical practice as the business enterprise it is, through the widest possible range of medical services performed in a doctor's office, the assistant is instructed in step-by-step methods, correct procedures, and pitfalls to be avoided.

Basic information on banking, alternative suggestions in book-keeping methods, and detailed instructions on collection of accounts, are discussed in digestible prose. Legal liability and responsibility are considered. The office assistant is given direction in her personal grooming and in her deportment. Tips are provided for the handling of and solutions to the interpersonal problems that inevitably arise in the medical office.

Technical information on instruments, drugs, and patient handling, are provided in abundance.

This book is well bound and is printed in clear type on a good quality paper. It has a place as a reference volume in every doctor's office, and can be well recommended to the would-be medical assistant, as well as to the active medical assistant, no matter how wide her experience.

DAS ANTIKOERPERMANGELSYNDROM (The Antibody Deficiency Syndrome). Edited by S. Barandun, H. Cottier, A. Hässig, and G. Riva. 539 pp. Illust. Benno Schwabe & Co., Verlag, Basel and Stuttgart, 1959. $8.40 approx.

This monograph consists of publications which appeared on this subject in *Helvetica Medica Acta* in 1959 and is the result of a combined effort of all major Swiss medical centres.

The authors give a detailed account of their experience with 41 patients who suffered from consequences of a deficient production of specific antibodies. Extensive serological and immunological tests were carried out in all but 10 patients, and results of the histological examination of biopsy or autopsy material are also reported.

The introductory chapters deal with such topics as the function of antibodies in the defence mechanism of the human body, the purity of commercially available preparations of gamma globulins, and the identification and chemistry of the various gamma globulins with immunological properties. In subsequent chapters the clinical signs and symptoms of the "antibody deficiency syndrome" (the term is coined by the authors themselves) are discussed and pertinent laboratory findings are reported in detail. The final chapter gives the last word to the pathologist.

The authors discuss their own findings in view of 232 similar cases collected from the literature, and in this respect, and many others, the book is an up-to-date review of a complex subject.

The text is written in German which is easily understood and each chapter is followed by a French and English summary. The student who wants to become familiar with a relatively new field in medicine will enjoy the presentation in that certain concepts of modern immunology are introduced first before a "high level" discussion is entered. For the expert, the monograph may not have too much in the way of original observations, but he will appreciate the exhaustive bibliography and the multiplicity of apparently impartial views on certain matters.

STAINING PROCEDURES, used by The Biological Stain Commission. 2nd ed., revised by H. J. Conn, Mary A. Darrow and V. M. Emmel. 289 pp. Published under the auspices of the Biological Stain Commission, University of Rochester Medical Center, Rochester, N.Y.; The Williams & Wilkins Company, Baltimore, Md., 1960. $5.00.

Il n'est pas de biologiste ou d'histologiste qui ne connaisse et n'apprécie hautement le travail considérable fourni par la Biological Stain Commission dans le contrôle et la standardisation des colorants biologiques. Ce livre, publié sous les auspices de cette même commission, jouit donc d'emblée d'un préjugé favorable.

Ainsi que le titre l'indique, l'ouvrage traite de façon très spécialisée de l'ensemble de la technique microscopique classique. La première partie résume les principes de la fixation et de l'inclusion en paraffine ou en celloïdine. Plusieurs points, fréquemment éludés dans d'autres manuels, sont ici bien précisés et diverses tables seront de la plus grande utilité pratique (préparation des solutions tampon, définition exacte des pourcentages etc.).

Le reste du livre est entièrement consacré aux méthodes de coloration utilisées en histologie animale, en botanique et en microbiologie. Environ 300 techniques sont décrites à fond, pas à pas; ceci peut sembler moins complet que ce que l'on trouve dans d'autres traités du même genre, mais, en réalité, il s'agit là d'un choix volontaire. Seules ont été retenues les méthodes les plus sûres, et dans chaque cas des références précises aux auteurs sont fournies.

Le plan général peut être résumé ainsi:

1.—histologie animale.—méthodes générales; tissu conjonctif; tissu nerveux (cellules puis fibres et terminaisons); sang et mœlle hématopoïétique; cytologie.

2.—histologie végétale.—méthodes générales; colorations du pollen; cytologie.

3.—microbiologie.—colorations sur frottis; colorations, sur coupes. Une bibliographie et un index alphabétique en fin d'ouvrage, aident le lecteur à trouver rapidement ce qu'il cherche.

En résumé, un excellent livre publié par un équipe de maîtres renommés, qui doit se trouver dans tous les laboratoires.

FORTHCOMING MEETINGS

THE CANADIAN MEDICAL ASSOCIATION, 94th Annual Meeting, Montreal, Que., June 19-23, 1961. Dr. A. D. Kelly, General Secretary, 150 St. George St., Toronto 5, Ont.

CANADA

September

ASSOCIATION DES MÉDECINS DE LANGUE FRANÇAISE DU CANADA, le 30e Congrès, Windsor, Ont., Septembre 20-23. Le Docteur Pierre Smith, Directeur des Rélations Extérieures, 326 est Boulevard Saint-Joseph, Montréal 14, P.Q.

MANITOBA MEDICAL ASSOCIATION, Annual Meeting, Winnipeg, Man., September 26-27. Dr. M. T. Macfarland, Executive Director, 601 Medical Arts Bldg., Winnipeg, Man.

ASSOCIATION DES ANATOMO PATHOLOGISTES DE LA PROVINCE DE QUEBEC—QUEBEC ASSOCIATION OF PATHOLOGISTS, Annual Meeting, Chicoutimi, Que., September 27-28. Dr. Rene Lefebvre, Secretary, Department of Pathology, Hôtel-Dieu Hospital, 3840 St. Urbain St., Montreal 18, Que.

THE CANADIAN MEDICAL ASSOCIATION, ALBERTA DIVISION, Annual Meeting, Calgary, Alta., September 28-30. Dr. Wm. Bramley-Moore, Secretary-Treasurer, 501 Alexandra Bldg., Edmonton, Alta.

October

ONTARIO PUBLIC HEALTH ASSOCIATION, Toronto, Ont., October 3-5. Dr. G. K. Martin, Secretary-Treasurer, Room 405, 67 College St., Toronto, Ont.

THE CANADIAN MEDICAL ASSOCIATION, BRITISH COLUMBIA DIVISION, Annual Meeting, Vancouver, B.C., October 4-7. Dr. G. Gordon Ferguson, Executive Director, 1807 West 10th Ave., Vancouver 9, B.C.

COLLEGE OF PHYSICIANS AND SURGEONS OF SASKATCHEWAN—THE CANADIAN MEDICAL ASSOCIATION, SASKATCHEWAN DIVISION, Annual Meeting, Regina, Sask., October 18-21. Dr. G. W. Peacock, Secretary, 932 Spadina Crescent E., Saskatoon, Sask.

CANADIAN SOCIETY FOR THE STUDY OF FERTILITY, Toronto, Ont., October 21 and 22. Dr. George H. Arronet, Secretary, Infertility Centre, Royal Victoria Hospital, Montreal, Que.

November/December

CANADIAN HEART ASSOCIATION AND NATIONAL HEART FOUNDATION OF CANADA, Toronto, Ont., November 30-December 3. Dr. John B. Armstrong, National Heart Foundation, 501 Yonge St., Toronto 5, Ont.

1961

THE CANADIAN ASSOCIATION OF RADIOLOGISTS, 24th Annual Meeting, Saint John, N.B., January 22-25, 1961. Dr. R. G. Fraser, Honorary Secretary-Treasurer, Ste. 204, 1555 Summerhill Ave., Montreal 25, Que.

COLLEGE OF GENERAL PRACTICE (MEDICINE) OF CANADA, Annual Meeting, Vancouver, B.C., March 20-23, 1961. Dr. W. V. Johnston, Executive Director, 150-A St. George St., Toronto 5, Ont.

UNITED STATES

September

COLLEGE OF AMERICAN PATHOLOGISTS, Chicago, Ill., September 24-27. Dr. Arthur H. Dearing, Executive Director, 2115 Prudential Plaza, Chicago, Ill.

AMERICAN SOCIETY OF CLINICAL PATHOLOGISTS, Chicago, Ill. September 24-October 2. Mr. Claude E. Wells, Executive Secretary, 445 Lake Shore Drive, Chicago 11, Ill.

October

AMERICAN SOCIETY OF ANESTHESIOLOGISTS, INC., New York, N.Y., October 2-7. Mr. John W. Andes, Executive Secretary, 188 West Randolph St., Chicago 1, Ill.

AMERICAN SOCIETY OF PLASTIC AND RECONSTRUCTIVE SURGERY, Los Angeles, Cal., October 2-7. Dr. Thomas R. Broadbent, Secretary, 508 E.S. Temple, Salt Lake City, Utah.

AMERICAN ASSOCIATION FOR THE SURGERY OF TRAUMA, Coronada, Cal., October 5-7. Dr. William T. Fitts, Jr., Secretary, 3400 Spruce St., Philadelphia 4, Penn.

AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY, Chicago, Ill., October 9-14. Dr. William L. Benedict, Executive Secretary, 15 Second St. S.W., Rochester, Minn.

CONGRESS ON INDUSTRIAL HEALTH, Charlotte, N.C., October 10-12. Council on Occupational Health, American Medical Association, 535 N. Dearborn St., Chicago 10, Ill.

AMERICAN COLLEGE OF SURGEONS, Clinical Congress, San Francisco, Cal., October 10-14. Dr. Williams E. Adams, 40 E. Erie St., Chicago 11, Ill.

ACADEMY OF PSYCHOSOMATIC MEDICINE, Philadelphia, Pa., October 13-15. Dr. Bertram B. Moss, 55 E. Washington, Chicago 2, Ill.

AMERICAN ACADEMY OF PEDIATRICS, Chicago, Ill., October 17-20. Dr. E. H. Christopherson, Executive Director, 1801 Hinman Avenue, Evanston, Ill.

AMERICAN HEART ASSOCIATION, INC., St. Louis, Mo., October 21-25. Mr. Rome A. Betts, Executive Director, 44 E. 23rd St., New York 10, N.Y.

AMERICAN COLLEGE OF GASTROENTEROLOGY, Philadelphia, Pa., October 23-26. Mr. Daniel Weiss, Executive Director, 33 West 60th St., New York 23, N.Y.

AMERICAN PUBLIC HEALTH ASSOCIATION, San Francisco, Cal., October 30-November 4. Dr. Berwyn F. Mattison, Executive Director, 1790 Broadway, New York 19, N.Y.

November

AMERICAN SOCIETY OF TROPICAL MEDICINE AND HYGIENE, Los Angeles, Cal., November 2-5. Dr. Rolla B. Hill, Executive Secretary, 3572 St. Gaudens Rd., Miami 33, Fla.

ASSOCIATION OF CLINICAL SCIENTISTS (Applied Seminar on Measurements of Pancreatic Function in Clinical Medicine), Washington, D.C., November 4-5. Dr. F. William Sunderman, 1025 Walnut St., Philadelphia 7, Pa.

December

CONFERENCE ON GRADUATE MEDICAL EDUCATION, Philadelphia, Pa., December 1-2. Dr. Paul Nemir, Jr., Dean, 237 Medical Laboratories Bldg., Philadelphia 4, Pa.

AMERICAN ACADEMY OF DERMATOLOGY AND SYPHILOLOGY, Chicago, Ill., December 3-8. Dr. Robert R. Kierland, Secretary-Treasurer, First National Bank Bldg., Rochester, Minn.

RADIOLOGICAL SOCIETY OF NORTH AMERICA, Cincinnati, Ohio, December 4-9. Dr. Donald S. Childs, Secretary, 713 E. Genesee St., Syracuse 2, N.Y.

OTHER COUNTRIES

September

WORLD MEDICAL ASSOCIATION, 14th General Assembly and 63rd Deutsche Aerztetag, Western Berlin, September 15-22. Dr. Louis H. Bauer, Secretary-General, 10 Columbus Circle, New York 19, N.Y.

EUROPEAN CONGRESS OF CARDIOLOGY, Rome, Italy, September 18-25. Secretariat, Organizing Committee, Clinica Medica-Policlinico, University of Rome, Rome, Italy.

PAN-PACIFIC SURGICAL ASSOCIATION, 8th Congress Honolulu, Hawaii, September 28-October 5. Dr. F. J. Pinkerton, Director General, Suite 230, Alexander Young Bldg., Honolulu 13, Hawaii.

October

SYMPOSIUM ON DIAGNOSIS AND TREATMENT OF ACUTE RADIATION SICKNESS, Geneva, Switzerland, October 17-22. World Health Organization, Palais des Nations, Geneva, Switzerland.

Canad. M. A. J.
Sept. 17, 1960, vol. 83

NEWS & VIEWS
ON THE ECONOMICS OF MEDICINE

Prepared by the Department of Medical Economics. The Canadian Medical Association

NUMBER 10

Our sources of information are private communications and published comments in medical journals and the lay press. These are usually reliable but incorrect quotation or interpretation is always possible.

In Saskatchewan, the Advisory Planning Committee on Medical Care has been holding regular monthly meetings during the summer months. To date their studies have been primarily concerned with a consideration of health programmes now in existence.

Mr. Thatcher, Opposition Leader, recently predicted an increase in the Saskatchewan hospitalization tax for 1961. He said that the rate for a single person would jump from $17.50 to $24.00, and for a family from $35 to $48. Health Minister Erb did not deny Mr. Thatcher's prediction.(1)

Mr. Erb announced substantial increases in Provincial Government grants for hospital construction. The present provincial grant of $2,000 a bed will be raised to from $3,200 to $9,100 a bed, depending on the type of hospital. Base hospitals will receive the larger amount and the scale will be decreased for regional and community hospitals.

Saskatchewan will also take over the repayments of principal—but not the interest payments—of construction debts which hospitals now owe. At the same time, the Province will stop recognizing depreciation on buildings as part of a hospital's operating cost.(2)

B.C. Health Minister Martin announced that the British Columbia Hospital Insurance Service would become responsible on September 1st for a chronic care treatment programme, the first of its kind in Canada. Mr. Martin said that general hospitals at Nanaimo and North Vancouver will probably be turned into chronic care centres when new hospital buildings are completed in those cities.(3)

The French Government appears to be winning a battle with France's doctors and dentists over National Health Insurance payments. To date, doctors have been resisting the Government's amended measures on the grounds that they would mean 'the beginning of collectivised and socialistic medicine in France.'

Doctors are still hostile in many areas, notably in the centre of Paris, and it is here that the decisive phase is likely to be fought.

(over)

Government has forced the issue by deciding on a scale of reimbursements for services in the Seine area. Patients who go to doctors in the new scheme will be reimbursed by the National Health Scheme at 80% of the doctor's fee. Patients who go to doctors outside the scheme will be reimbursed at a much lower rate.

Paris doctors, who are organized in a union, announced that they will hold a referendum to decide whether or not they will join. Government believes that many will sign up individually, even though their union is against it.(4)

In the U.S., Congress passed and the President signed legislation implementing a voluntary, federal-state plan of helping needy elderly persons meet their medical and hospital costs.

The vote was a set-back for the Senate Democratic leadership and for leaders of organized labour, who had waged an all-out campaign to secure enactment of a programme for all social security recipients.

The legislation is basically that which was proposed by the American Medical Association and allied health groups. Thus the Forand type legislation is shelved, at least for the present.(5)

Dr. J. Sarto Sirois, connected with the provincial health ministry since 1935, has been appointed assistant general director of hospital insurance in Quebec, Health Minister Dr. Alphonse Couturier announced. Earlier, Dr. Jules Gilbert of Montreal had been named general director of hospital insurance. Both men are experts in public hygiene. The province does not have a hospital insurance plan in operation, but Premier Lesage has indicated he wants one introduced by Jan. 1, 1961.(6)

REFERENCES:

(1) Regina Leader-Post, August 24, 1960.
(2) Regina Leader-Post, August 30, 1960.
(3) Saskatoon Star-Phoenix, August 26, 1960.
(4) The Sunday Times, London, England, August 14, 1960.
(5) The AMA News, September 5, 1960.
(6) Montreal Gazette, September 2, 1960.

Books Received

Books are acknowledged as received, but in some cases reviews will also be made in later issues.

Health Statistics from the U.S. National Health Survey. Series D, No. 2. Co-operation in Health Examination Surveys. 38 pp. Illust. U.S. Department of Health, Education, and Welfare, Public Health Service, Washington, D.C., 1960.

Automatic Chemical Analysis. Annals of the New York Academy of Sciences, Vol. 87, Art. 2. R. H. Muller. 343 pp. Illust. The New York Academy of Sciences, New York, 1960. $3.50.

Kranke Säuglinge. C. H. Verboom. 367 pp. Illust. Georg Thieme Verlag, Stuttgart, W. Germany; Intercontinental Medical Book Corporation, New York, 1960. $9.40.

Tumours of Childhood. A Clinical Treatise. H. W. Dargeon, Attending Pediatrician and Chief, Pediatric Service, Memorial Hospital for Cancer and Allied Diseases, New York. 476 pp. Illust. Paul B. Hoeber, Inc., New York, 1960. $20.00.

Transport and Accumulation in Biological Systems. E. J. Harris, Department of Biophysics, University College, London. 291 pp. Illust. Butterworth & Co. (Canada) Ltd., Toronto, 1960. $9.00.

The Vagina. Annals of the New York Academy of Sciences. W. R. Lang (Conference Chairman). Vol. 83, Art. 2. 282 pp. Illust. The New York Academy of Sciences, New York, 1959. $4.00.

Social and Cultural Pluralism in the Caribbean. Annals of the New York Academy of Sciences. D. L. Keur and V. Rubin (Conference Co-Chairmen). Vol. 83, Art. 5. 156 pp. The New York Academy of Sciences, New York, 1960. $3.00.

Rehabilitation Services in Canada—Part 1. 235 pp. Research and Statistics Division, Department of National Health and Welfare, Ottawa, Canada.

The Purpose and Practice of Medicine. Sir James Spence. 308 pp. Illust. Oxford University Press, Toronto, 1960. $6.50.

Portrait of Social Work: A study of social services in a northern town. B. N. Rodgers and J. Dixon. 266 pp. Illust. Oxford University Press, Toronto, 1960. $2.00.

Pediatric Nursing. G. S. Benz, Chairman of the Department of Maternal and Child Nursing, State University of Iowa. 572 pp. Illust. 4th ed. The C. V. Mosby Co., St. Louis, 1960. $6.00.

THE CANADIAN MEDICAL ASSOCIATION

JOURNAL

LE JOURNAL DE L'ASSOCIATION MÉDICALE CANADIENNE

Editorial Office—150 St. George St., Toronto 5

General Secretary's Office—150 St. George St., Toronto 5

SUBSCRIPTION RATES

The Journal is supplied to paid-up members of the Canadian Medical Association as a perquisite of membership. Medical libraries, hospitals, and individuals may subscribe to the Journal at $12.00 a year, payable in advance. There is a special rate for medical students residing in Canada of $2.50 a year. Subscriptions and all relative correspondence should be addressed to the Subscription Department, Canadian Medical Association Journal, 150 St. George Street, Toronto 5, Ontario.

INSTRUCTIONS TO CONTRIBUTORS

Manuscripts: Manuscripts of original articles, case reports, short communications, and special articles should be submitted to the Editor at the C.M.A.J. editorial office, 150 St. George St., Toronto, with a covering letter requesting consideration for publication in the *Journal*. Acceptance is subject to the understanding that they are submitted solely to this *Journal*, and will not be reprinted without the consent of both the Editor and the author. Articles should be typed on one side only of unruled paper, double-spaced and with wide margins. Carbon copies cannot be accepted. The author should always retain a carbon copy of material submitted. Every article should contain a summary of the contents.

The Editor reserves the right to make the usual editorial changes in manuscripts; these include such changes as are necessary to ensure correctness of grammar and spelling, clarification of obscurities or conformity to *Journal* style. In no case will major changes be made without prior consultation with the author. Authors will receive galley proofs of articles before publication, and are asked to confine alterations of such proofs to a minimum.

Reprints may be ordered on a form supplied with galley proofs.

References: Authors should limit references to published work to the minimum necessary for guidance to readers wishing to study the subject further. They should not quote articles they have never seen. Except in review articles, the maximum number of references should not be more than 25. References should be numbered in the text and should be set out in a numbered list at the end of the article, thus:

1. DOAKES, J.: *M. J. Kamchatka*, 1: 2, 1955, giving in order: (1) Author's name and initials in capitals. Where more than three authors are concerned in an article, only the first should be named, with *et al.* as reference to the others. (2) Quarterly Cumulative Index Medicus abbreviation of journal name. (3) Volume number. (4) Page number. (5) Year.

References to books should be set out as follows:

PICKWICK, S., *Textbook of Medicine*, Jones and Jones, London, 1st ed., p. 30, 1955.

Illustrations: Photographs should be glossy prints, unmounted and untrimmed, preferably not larger than 10 by 8 inches. Colour work can be published only at the author's expense. Magnification of photomicrographs must always be given. Photographs must not be written on or typed on. Identification can be made by pasting an identifying legend on the back. Patients must not be recognizable in illustrations, unless the written consent of the subject to publication has been obtained. Graphs and diagrams should be drawn in india ink on suitable white paper. Legends to all illustrations should be typed separately from the text of the article. Illustrations should not be rolled or folded.

CLASSIFIED ADVERTISEMENTS

Please send copy to the Advertising Department, Canadian Medical Association Journal, 150 St. George Street, Toronto 5, Ontario.

Rates: $5.00 for each insertion of 40 words or less, additional words 10c each.

If a box number is required, there will be an additional charge of 50c on the first advertisement to cover postage and handling charges.

Classified advertisements must be at the office of the Journal not later than three weeks prior to date of issue.

Miscellaneous

WANTED.—Complete articulated skeleton. Perfect condition and reasonable price are requisites. Write Secretary, Medical Staff, Penticton Hospital, Penticton, B.C.

Office Space

MEDICAL SUITE FOR SALE. Splendid location. Bayview and Moore. 5 rooms, air-conditioned. Light and janitor service included, $200. Professional offices in the building. Male doctor preferred. Apply 416 Moore Ave., Room 102, Toronto 17, Ontario.

HAMILTON.—Doctor's suite with finished waiting room and parking, 183 James St. S., across from the Medical Arts Bldg., Apply Doctor Charles E. Vaughan, 793 Main St. E., or phone JAckson 2-2344.

TORONTO.—99 AVENUE ROAD, NEAR BLOOR. Medical suite—600 square feet—in modern medical building—air-conditioned, elevator, parking. Can remodel to suit or arrange disposal of present lease if necessary. If interested apply to above address.

ETOBICOKE-MARTINGROVE PLAZA.—Medical suite — 4 rooms (suggested for obstetrician and pædiatrician), also medical office suitable for eye specialist. Close to Queensway and Humber Memorial Hospitals. 4 schools within ½ mile radius. Rent reasonable. For particulars, 5 Lawnston Drive, CH. 7-8807.

Positions Wanted

GENERAL AND THORACIC SURGEON available early 1961, interested in associating with another surgeon, clinic or group. Reply to Box 970, CMA Journal, 150 St. George Street, Toronto 5, Ont.

34 YEAR OLD CANADIAN, eligible for fellowship in OB-GYN. Fall of 1960, available November 1, 1960. Would like to join clinic, group or associate with another OB-GYN man for specialty practice. Reply to Box 979, CMA Journal, 150 St. George Street, Toronto 5, Ontario.

PHYSICIAN considering change of location interested in senior permanent institutional or clinic appointment. Internal medicine, thoracic disease and administrative experence. Reply to Box 982, CMA Journal, 150 St. George Street, Toronto 5, Ontario.

SURGEON.—F.R.C.S.(E) presently abroad, desires appointment with hospital or group of doctors. Widely experienced all branches of surgery, including plastic. Exceptional credentials and training. Available from end September. P.O. Box 156, Antigonish, Nova Scotia.

Positions Vacant

ASSISTANT IN GENERAL PRACTICE to assist general surgeon and another general practitioner in suburban Toronto. Salary and car expenses. Reply to Box 635, CMA Journal, 150 St. George Street, Toronto 5, Ontario.

MEDICAL NEWS *in Brief*

(Continued from page 660)

CONGRES A WINDSOR, ONT., DE L'ASSOCIATION DES MEDECINS DE LANGUE FRANCAISE DU CANADA

Un grand nombre de médecins de toutes les parties du Canada se rendront à Windsor, Ontario, pour le 30e congrès de l'Association des Médecins de Langue française du Canada, qui s'ouvre le 20 septembre.

Présidé par le docteur Alphonse Leblanc, de Windsor, ce congrès suscitera un vif intérêt scientifique et culturel. Le délégué officiel de la France sera le Professeur Stanislas de Sèze, éminent spécialiste en rhumatologie, dont les travaux font autorité en France et à l'etranger.

A l'ordre du jour, parmi les questions scientifiques: *le problème de la surdité,* présenté par le directeur et les consultants du Centre de l'Ouïe et de la Parole de l'Hôpital Notre-Dame, *un colloque en obstétriques, un colloque sur l'alcoolisme* et un autre sur les *Plans prépayés d'assurance-maladie,* ainsi que de nombreuses autres communications.

Le programme social prévoit une rencontre au Centre canadien-français de Windsor, un déjeûner-causerie, de brillantes réceptions et des visites de la ville de Détroit.

Le comité du 30e Congrès entend faire de ce congrès un succès, une occasion d'échanges intellectuels, culturels et professionnels, dans une atmosphère de cordialité et de sympathique accueil.

CLINICAL FELLOWSHIPS—THE CANADIAN ARTHRITIS AND RHEUMATISM SOCIETY

The Canadian Arthritis and Rheumatism Society offers a limited number of fellowships for clinical training in internal medicine, with special emphasis on rheumatology. Fellowships are tenable for a period of 12 months, ordinarily commencing on July 1, and are renewable on application. Fellowships bear a stipend of $2600 to $5000 per annum, depending upon the experience and domestic responsibilities of the successful candidates. Further par-

(Continued on page 30)

MEDICAL NEWS *in brief*

(Continued from page 29)

ticulars, application forms and regulations governing awards may be obtained from Deans and Professors of Medicine, or from The Canadian Arthritis and Rheumatism Society, 900 Yonge Street, Toronto 5, Ont. Applications for the academic year 1961-62 should be forwarded in time to reach the offices of the Society at the above address by October 22, 1960.

NURSES' PROGRAM—AMERICAN HEART ASSOCIATION ANNUAL MEETING

A program for nurses will again be included in the American Heart Association's annual Scientific Sessions to be held this year in the Kiel Auditorium, St. Louis, Mo., October 21-23. The nurses' program, inaugurated last year, is scheduled for Saturday, October 22.

The Saturday morning session will include a panel discussion on the subject "Total nursing care of the patient with myocardial infarction". The panel will comprise a physician, nurse, nutritionist, social worker and a patient who will describe his experiences with the nursing care he received from the onset of his infarction till his return to employment.

The afternoon session will be devoted to an open discussion among the audience and morning panelists on various problems encountered in nursing patients with cardiovascular diseases.

Nurses will also have an opportunity to attend scientific sessions for physicians and scientists and to visit the section on industrial and scientific exhibits.

Those wishing to attend may register in advance on forms obtainable from the American Heart Association, 44 East 23rd Street, New York 10, N.Y., or at Kiel Auditorium on Saturday, October 22, from 8:30 to 9:30 a.m. Requests for hotel reservations are included in the registration forms.

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CANADIAN CIVIL DEFENCE COLLEGE

Medical and Dental Practitioners' Indoctrination, Course No. 483, November 14-18, 1960.

The aim of this course will be to present an account of the health problems arising from attack by nuclear, biological and chemical weapons.

The course will include: (a) An account of the history and development of Emergency Health Services in Canada. (b) A general statement on the target effects of nuclear, biological and chemical weapons with emphasis on the effects of the larger nuclear weapons. (c) Professional health problems in relation to radiation injury (somatic and genetic); control of radioactive contamination; defence against biological and chemical warfare; management of mass casualties with particular reference to shock, trauma and burns; anæsthesia; blood transfusions and the use of blood substitutes; public health and sanitation in disaster; psychological and psychiatric problems in catastrophe; supply of medical and technical material; the roles of

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MEDICAL NEWS *in brief*

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the health professions and ancillary personnel in war emergency. (d) An account of the work of Emergency Health Services, their planning and proposed tactics, including the role of the Canadian Forces Medical Service in catastrophe; disaster supplies for hospitals, demonstrations and directed discussion periods. (e) Documentary films of general and professional interest. (f) Playlets.

All candidates must be professionally qualified in medicine or dentistry. The nominating authority should consider the actual or potential usefulness of candidates to Emergency Health Services and will consult with their professional advisers in selecting their nominees.

Candidates may be nominated by provincial and municipal governmental authorities, by major industries, by professional societies and organizations.

Candidates who have previously attended these courses and who wish to attend again may ask their sponsoring organization to make special application, giving reasons for the proposed repetition. Such repetition, however, is not encouraged at the present time and in most foreseeable circumstances must be refused.

Speakers for this course will be selected from the staffs of the Emergency Measures Organization; Emergency Health Services; Dental Health Division, Department of National Health and Welfare, Federal Department of Agriculture, university faculties, and governmental scientific installations and from consultants and specialists in particular fields.

The 54 vacancies on the course have been allocated as follows: British Columbia 4, Alberta 4, Saskatchewan 4, Manitoba 4, Ontario 8, Quebec 8, New Brunswick 2, Nova Scotia 3, Prince Edward Island 3, Newfoundland 2, Federal 5, Armed Forces 8.

A limited number of vacancies will be reserved for medical and dental officers of the Armed Forces (both Regular and Militia) and for other medical and dental practitioners selected by the Federal Government.

Provinces requiring additional vacancies or receiving allocations of vacancies in excess of their requirements are requested to make their needs known so that a complete course intake can be arranged.

Applications must reach the Commandant, Canadian Civil Defence College, *not later than October 31, 1960.*

Candidates must be issued with "Joining Instructions".

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PUBLIC EXHIBITIONS AS A MEDIUM FOR HEALTH EDUCATION

The Cleveland Health Museum is exhibiting a new display entitled "The Wonder of New Life", illustrating various aspects of the phenomenon of human reproduction. The subject of heredity and sex determination is portrayed in an animated display with visitors' participation. By manipulation of electrical switches the visitor can hear and see the answers to various questions dealing with mental health aspects of emotional preparation of a family for the advent of a new child. The story of fertilization is illustrated by a giant plastic egg, six feet in diameter,

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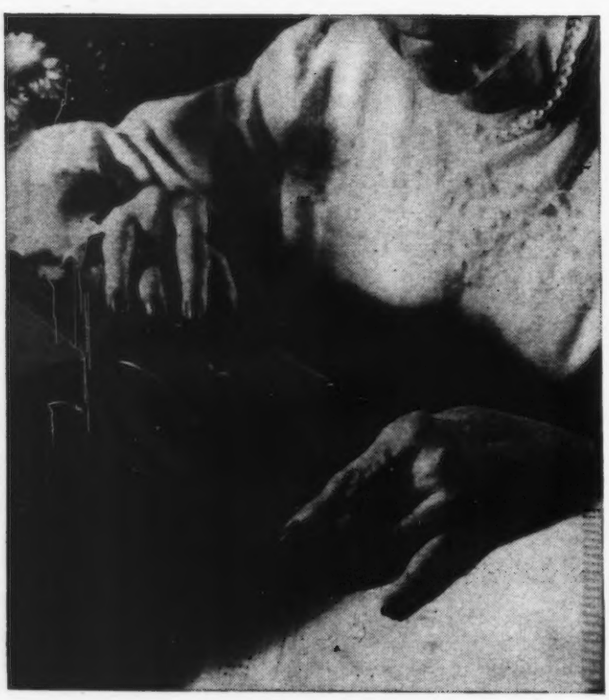
CLINICAL REMISSION

In disabling rheumatoid arthritis
A 62-year-old printer incapacitated for three years was started on DECADRON, 0.75 mg./day.
Has lost no work-time since onset of therapy with DECADRON one year ago. Blood and urine analyses are normal, sedimentation rate dropped from 36 to 7.
*He is in clinical remission.**

In rheumatoid arthritis with diabetes mellitus
A 54-year-old diabetic with a four-year history of arthritis was started on DECADRON, 0.75 mg./day, to control severe symptoms.
After a year of therapy with 0.5 to 1.5 mg. daily doses of DECADRON, urine is completely sugar-free and she has had no side effects.
*She is in clinical remission.**



In rheumatoid arthritis with serious corticoid side effects
Following profound weight loss and acute g.i. distress on prednisolone, a 45-year-old bookkeeper with a five-year history of severe arthritis was started on DECADRON, 1 mg./day.
Dosage was promptly reduced to 0.5 mg./day. After ten months on DECADRON, she gained back eleven pounds, feels very well, and had no recurrence of stomach symptoms.
*She is in clinical remission.**

New convenient b.i.d. alternate dosage schedule: the degree and extent of relief provided by DECADRON allows for b.i.d. maintenance dosage in many patients with so-called "chronic" conditions. Acute manifestations should first be brought under control with a t.i.d. or q.i.d. schedule.

MSD **Merck Sharp & Dohme** Montreal 30,
Division of Merck & Co. Limited

as it calms anxiety!

Smooth, balanced action lifts depression as it calms anxiety... rapidly and safely

Balances the mood – no "seesaw" effect of amphetamine-barbiturates and energizers. While amphetamines and energizers may stimulate the patient *they often aggravate anxiety and tension.*

And although amphetamine-barbiturate combinations may counteract excessive stimulation—*they often deepen depression.*

In contrast to such "seesaw" effects, Deprol's smooth, *balanced* action lifts depression as it calms anxiety—both at the same time.

Acts swiftly – the patient often feels better, sleeps better, within a few days. Unlike the delayed action of most other antidepressant drugs, which may take two to six weeks to bring results, Deprol relieves the patient quickly – often within a few days. Thus, the expense to the patient of long-term drug therapy can be avoided.

Acts safely – no danger of liver damage. Deprol does not produce liver damage, hypotension, psychotic reactions or changes in sexual function—frequently reported with other antidepressant drugs.

Bibliography *(13 clinical studies, 858 patients):* **1.** Alexander, L. (35 patients): Chemotherapy of depression – Use of meprobamate combined with benactyzine (2-diethylaminoethyl benzilate) hydrochloride. J.A.M.A. 166:1019, March 1, 1958. **2.** Bateman, J. C. and Carlton, H. N. (50 patients): Meprobamate and benactyzine hydrochloride (Deprol) as adjunctive therapy for patients with advanced cancer. Antibiotic Med. & Clin. Therapy 6:648, Nov. 1959. **3.** Beerman, H. M. (44 patients): The treatment of depression with meprobamate and benactyzine hydrochloride. Western Med. 1:10, March 1960. **4.** Bell, J. L., Tauber, H., Santy, A. and Pulito, F. (77 patients): Treatment of depressive states in office practice. Dis. Nerv. System 20:263, June 1959. **5.** Breitner, C. (31 patients): On mental depressions. Dis. Nerv. System 20:142, (Section Two), May 1959. **6.** Gordon, P. E. (50 patients): Deprol in the treatment of depression. Dis. Nerv. System 21:215, April 1960. **7.** Landman, M. E. (50 patients): Clinical trial of a new antidepressive agent. J. M. Soc. New Jersey. In press, 1960. **8.** McClure, C. W., Papas, P. N., Speare, G. S., Palmer, E., Slattery, J. J., Konefal, S. H., Henken, B. S., Wood, C. A. and Ceresia, G. B. (128 patients): Treatment of depression – New technics and therapy. Am. Pract. & Digest Treat. 10:1525, Sept. 1959. **9.** Pennington, V. M. (135 patients): Meprobamate-benactyzine (Deprol) in the treatment of chronic brain syndrome, schizophrenia and senility. J. Am. Geriatrics Soc. 7:656, Aug. 1959. **10.** Rickels, K. and Ewing, J. H. (35 patients): Deprol in depressive conditions. Dis. Nerv. System 20:364, (Section One), Aug. 1959. **11.** Ruchwarger, A. (87 patients): Use of Deprol (meprobamate combined with benactyzine hydrochloride) in the office treatment of depression. M. Ann. District of Columbia 28:438, Aug. 1959. **12.** Settel, E. (52 patients): Treatment of depression in the elderly with a meprobamate-benactyzine hydrochloride combination. Antibiotic Med. & Clin. Therapy 7:28, Jan. 1960. **13.** Splitter, S. R. (84 patients): Treatment of the anxious patient in general practice. J. Clin. & Exper. Psychopath. In press, April-June 1960.

Dosage: Usual starting dose is 1 tablet q.i.d. When necessary, this dose may be gradually increased up to 3 tablets q.i.d.

Composition: 1 mg. 2-diethylaminoethyl benzilate hydrochloride (benactyzine HCl) and 400 mg. meprobamate.
Supplied: Bottles of 50 light-pink, scored tablets. Write for literature and samples.

Deprol†

† TRADE-MARK

WALLACE LABORATORIES / *Toronto, Ontario*

MEDICAL NEWS *in brief*

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created in the Museum's workshops and showing among other features the union of male and female germ cells. Items from the Robert L. Dickinson collection of sculptured models depict the different stages of delivery, set on cone-shaped rotating turntables. Other aspects of the exhibition cover such subjects as "The Menstrual Cycle", "Endocrine Glands", "When to Expect Baby", "Your First Five Months", "Life Before Birth", and "The Why and Wherefore of Twinning".

The Museum has assembled an array of three-dimensional models, plastic carvings, animated diagrams, dioramas, actual specimens and push-button exhibits, and employs such techniques as air-conditioning, sound-proofing and spotlighting. This type of display and other features of the Cleveland Health Museum will undoubtedly be of interest to those concerned with any such ventures in health education of the public as the Ontario Medical Association's *Mediscope* project.

INTERNATIONAL SYMPOSIUM ON EXTRAPYRAMIDAL SYSTEM AND NEUROLEPTICS

An International Symposium on the Extrapyramidal System and Neuroleptics, organized by the Department of Psychiatry of the University of Montreal, will be held at the University of Montreal on November 17, 18 and 19. The program follows:

Thursday, November 17

9.15: Welcome to the delegates—W. Bonin (Montreal). 9.20: Introduction and position of the problem – J. Delay and P. Deniker (Paris).

ANATOMY AND PHYSIOPATHOLOGY (9.40 a.m.)

The Brain Stem and Infratentorial Neuraxis in Extrapyramidal Dyskinesia—M. B. Carpenter (New York). Experimental Production of Postural Tremor—L. Poirier (Montreal). Discussion—F. A. Mettler (New York). Recent Acquisitions in the Physiology of the Extrapyramidal System – R. Hassler (Freiburg in Breisgau, Germany). Cortical Unit Activity in Experimental Tremor – J. P. Cordeau (Montreal). Effects of Partial Denervation on Spinal Neurones and their Possible Relation to Parkinsonism—G. W. Stavraky (London, Ont.). Discussion. The Contributions of Electromyography for the Analysis of Extrapyramidal Motor Disorders – F. Isch (Strasbourg, France). Discussion – C. Gauthier (Montreal). Biochemistry of the Basal Ganglia and Some Research Data on the Formation of Dopamine *in vivo*—T. L. Sourkes (Montreal). Biochemical Aspects of Extrapyramidal Diseases—A. Barbeau (Montreal). Discussion – A. D'Iorio (Montreal).

PHARMACOLOGY (2.00 p.m.)

Interaction of Neuroleptics with Serotonin in the Central Nervous System—D. H. Tedeschi and collaborators (Philadelphia). Catatonia and Catalepsy—A. Beaulnes (Montreal). Structural Changes Induced by Neuroleptics—L. Roizin (New York). Discussion – G. Mathieson (Montreal). Actions of Drugs on Interneurons—R. F. Tislow (Philadelphia). Actions of Drugs on Psychomotor Activity—S. Irwin (Bloomfield). Use of Newer Psychopharmacological Drugs for Pharmacological Screening—G. Zbinden (Nutley). The Effect of Neuroleptics, Thymoleptics and Central Nervous System Stimulants on Capillary Endothelium—L. Kato and B. Gözsy (Montreal). Correlation of Anti-Tremorine and Anti-Parkinson Drug Activity. Inhibition of Various Enzymes Regulating the Cerebral Metabolism of Monoamines—K. F. Gey (Basle, Switzerland). Theories on Mechanisms of Action of the Neuroleptics—B. B. Brodie (Bethesda).

Friday, November 18

PARKINSON'S DISEASE (9.00 a.m.)

The Possible Mechanism Involved in the Treatment of Parkinson's Disease with Neuroleptics—G. C. Cotzias and collaborators (Long Island). Discussion—G. Courtois (Montreal). Psychological and Social Aspects of Parkinsonian Patients before and after Surgery—J. N. Fortin (Montreal). Psychological Studies on the Effects of Chemosurgery of the Basal Ganglia—M. Riklan (New York). Discussion—R. S. Schwab (Boston). The

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Evaluation of the Medical Treatment in Parkinson's Disease—Lewis J. Doshay (New York). Neurosurgical Panel on Neural Mechanisms in Extrapyramidal Diseases and their Treatment—Chairman: P. Bucy (Chicago), Moderator: C. Bertrand (Montreal), F. Robert (Montreal), S. N. Martinez (Montreal), A. A. Ward, Jr. (Seattle), E. A. Walker (Baltimore), B. Nashold (Durham), G. Guiot (Paris), E. A. Spiegel (Philadelphia).

EXTRAPYRAMIDAL SYNDROMES AND CLINICAL PSYCHIATRY
(2.00 p.m.)

Neuroleptics—P. Deniker (Paris). Panel on Clinical Activity of Neuroleptics in Relation with their Extrapyramidal Action—Chairman: M. Berthiaume (Montreal), J. O. Cole (Bethesda), H. D. Cornman (Philadelphia), F. A. Freyhan (Farnhurst), N. S. Kline (Orangeburg). Extrapyramidal Modifications of the Fine Motoric—a "conditio sine qua non" of the Principal Therapeutic Action of Neuroleptic Drugs—H. J. Haase (Düsseldorf, Germany). Neuroleptics and Extrapyramidal Reactions on the Adult Patients—F. J. Ayd (Baltimore). Discussion—Donald R. Gunn (New Toronto). Control of Psychotic Symptoms with Neuroleptics—J. M. Bordeleau (Montreal).

Saturday, November 19
(9.00 a.m.)

The Haloperidol Group—J. Collard (Liège, Belgium). Discussion—Herman Kabat (Providence). The Use of Neuroleptics with Children—L. Gratton (Montreal). The Use of Neuroleptics in Mental Deficiency—L. J. leVann (Red Deer). Therapeutic Activity and Neurological Incidence of Various Neuroleptics: Comparisons and Considerations — P. Lambert (Chambéry, France). The Psychopharmacological Profile—A Systematic Approach to the Interaction of Drug Effects and Personality Traits—H. E. Lehmann (Montreal). Analytic Studies of Psychophysiologic Processes in Parkinson's Disease — David Bélanger (Montreal). The Implications of Extrapyramidal Symptoms in the Treatment of Schizophrenia — J. Denham (Epsom, England). Parkinsonism and Related Phenomena from Administration of Drugs: Their Production and Control under Clinical Conditions and Possible Relation to Therapeutic Effect—D. Goldman (Cincinnati).

2.00 p.m.

Theory of Energetic Changes in the Central Nervous System—M. Ostow (New York). Psychoanalytic Formulations of Pharmacotherapeutic Actions—H. Azima and G. J. Sarwer-Foner (Montreal). Discussion—W. C. M. Scott (Montreal). Panel on the Psychodynamic Aspects of Extrapyramidal Reactions—Chairman: G. J. Sarwer-Foner (Montreal), H. C. B. Denber (New York), R. A. Cleghorn (Montreal), N. W. Winkelman (Philadelphia), G. Lortie (Montreal).

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NEW COVERAGE THROUGH BLUE CROSS

A new plan featuring coverage for extended health benefits was

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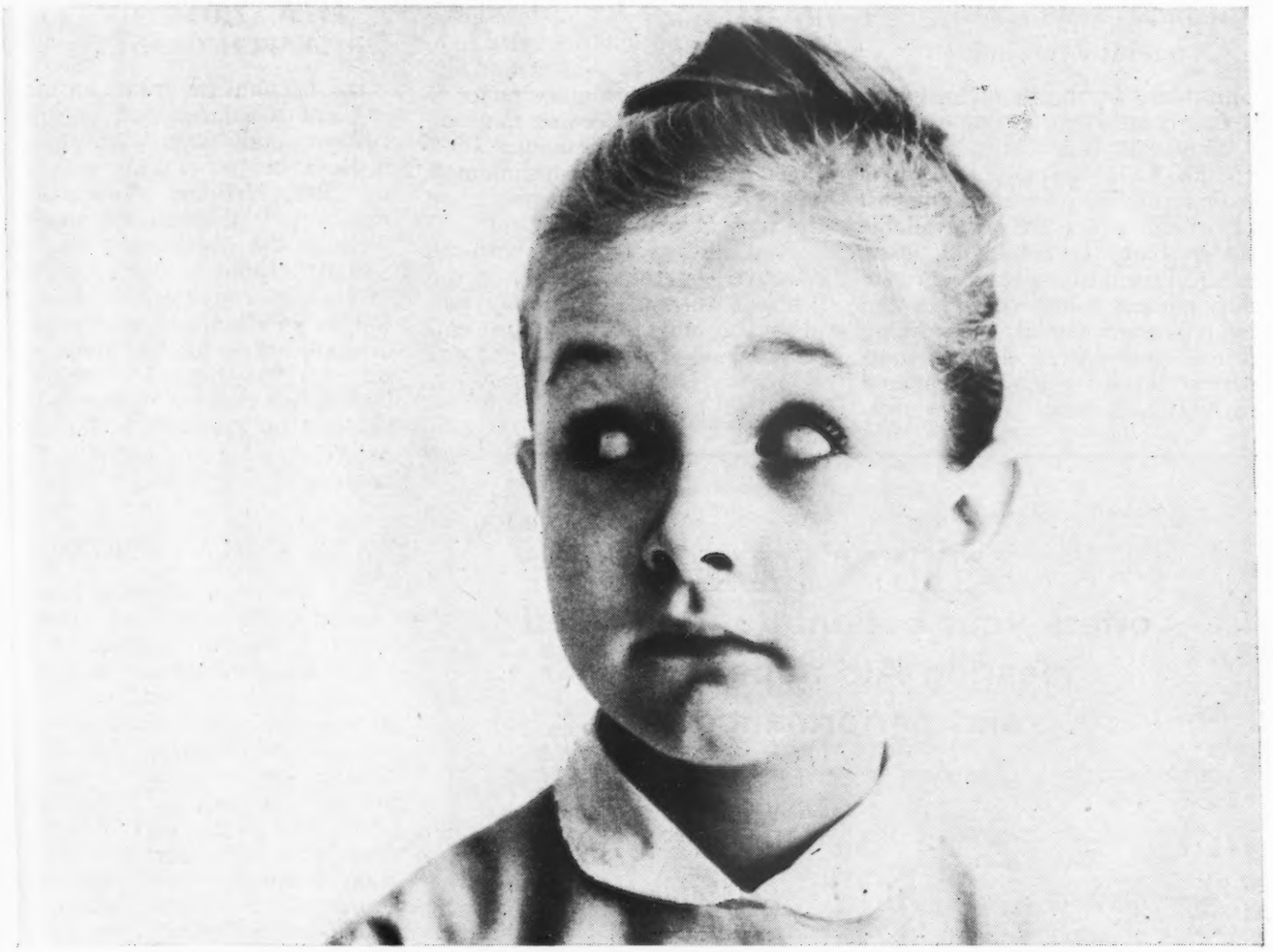

there hardly seems
an excuse for
having a runny nose
these days

The youngster who stops sniffling and begins breathing freely in a few minutes with all air passages cleared . . . and no sense of jitteriness or nasal irritation . . . is experiencing the Novahistine Effect, promptly achieved when you prescribe Novahistine Fortis Capsules or good tasting Novahistine Elixir.

Each tiny Novahistine Fortis Capsule, so easily swallowed by children, contains phenylephrine HCl, 10 mg. and pheniramine maleate, 12.5 mg. Dosage: 5-12 years, 1 capsule q.i.d.

For the younger child or where liquid medication is preferred prescribe pleasant, green Novahistine Elixir, containing half the amount of phenylephrine (5 mg.).

Novahistine® | **FORTIS CAPSULES or ELIXIR**

PITMAN-MOORE OF CANADA LIMITED
DON MILLS *Formerly E. B. Shuttleworth Limited* ONTARIO

MEDICAL NEWS *in brief*

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introduced by the Blue Cross Plan a few months ago in Ontario.

Known as Blue Cross Extended Health Care coverage, the plan makes provision for a sizable list of benefits which are not available under basic hospital and many medical-surgical plans. Private duty nursing at home or in hospital by registered nurses, prescription drugs, ambulance charges, outpatient service when not covered by O.H.S.C., excess charges over the O.M.A. schedule of fees are a few of the benefits included.

The contract is subject to a deductible and co-insurance factor at varied amounts according to group requirements and provides additional benefits up to a maximum of $5000 or $10,000 depending on the type of plan selected.

First offered for sale with an effective date of February 1, the contract is available to any employed group of 25 or more employees. — *Hospital Highlights* (Ontario Hospital Association), July 1960.

APPLICATIONS FOR RESEARCH GRANTS

Applications for grants for medical and social research in tuberculosis and other respiratory diseases are now being accepted by the National Tuberculosis Association, through its medical section, the American Thoracic Society (formerly the American Trudeau Society). *December 15, 1960* is the deadline for submission of applications for the grant year July 1, 1961—June 30, 1962. For further information write to the Division of Research & Statistics, American Thoracic Society, 1790 Broadway, New York 19, N.Y.

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A.T.S. ANNUAL MEETING

The American Thoracic Society (formerly the American Trudeau Society), Medical Section of the National Tuberculosis Association, is soliciting abstracts of papers on all scientific aspects of tuberculosis and nontuberculous respiratory diseases for presentation at its annual meeting in Cincinnati, Ohio, May 22-24, 1961. Abstracts must be in the hands of the program committee *not later than January 7, 1961.* For further information write to: Leon H. Schmidt, Ph.D., Chairman, Medical Sessions Committee, American Thoracic Society, 1790 Broadway, New York 19, N.Y.

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EXAMINATIONS OF THE AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The American Board of Obstetrics and Gynecology announces that the next scheduled examination (Part 1), written, will be held in various cities of the United States, Canada, and military centres outside the continental United States, on Friday, January 13, 1961.

Reopened candidates are required to submit case reports for review 30 days after notification of eligibility. Scheduled Part I and candidates resubmitting case reports are required to submit Case Reports prior to August 1 each year.

Current Bulletins may be obtained by writing to: Robert L. Faulkner, M.D., Executive Secretary and Treasurer, 2105 Adelbert Road, Cleveland 6, Ohio.